

MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

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RICHARD H. EDMONDS,
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THOMAS P. GRASTY,
General Staff Correspondent.

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BALTIMORE, MARCH 3, 1899.

Work Appreciated.

During the past week the Manufacturers' Record has received several letters expressing gratification at the benefit derived by advertisers and readers from its columns. From the Aultman Company, engineers, founders and machinists, Canton, O., came the following:

In the case of a publication having done us as much good as you have, we feel that you ought to be told of it.

We find that by following up inquiries coming through you we have sold within the last sixty days three very good orders, amounting to several thousand dollars.

These sales were to the Willson Aluminum Co., Holcomb Rock, Va.; the Nansmond Peanut Co., Suffolk, Va., and the Central City Ice Co., of Macon, Ga. You are at liberty to use this letter where it will do you any good as long as you do not get too many of our competitors patronizing your advertising columns. Wishing you success, and thanking you for the assistance that you have rendered us, we are,

Very truly yours,

The Aultman Company,

By O. D. Hogue, Sales Manager.

This letter is self-explanatory, but it is reinforced by the following:

W. W. Duson & Bro., real estate, Crowley, La.:

We take pleasure in remitting you for the Manufacturers' Record, as we would not know what to do without this valuable paper.

Mr. L. Hanson, manager of the Sprittine Chemical Co., Wilmington, N. C.:

We think the Manufacturers' Record is a necessity to anyone interested in the South, and we cannot afford to do without it.

Simon Baer & Co., general Southern agents for manufacturers' products, Atlanta, Ga.:

Your paper is the best of the kind that we have ever read.

The Birmingham Boiler Works, Birmingham, Ala.:

We note with pleasure that the Manufacturers' Record is maintaining its high standard, and that it is continually growing in merit.

It is gratifying to the Manufacturers' Record to give publicity to these tokens of appreciation of the work which it is doing in bringing together for the development of the South interests separated by hundreds of miles, but benefited by co-operation induced by a reliable medium for the exchange of ideas.

In this week's Manufacturers' Record is published an article by Hon.

William M. Beckner, of Winchester, Ky., on the position which the South should take in regard to aggregate capital. Mr. Beckner is a representative of the sturdy stock which has been prominent in American history, and has served his State and his country with distinction. A man of liberal culture and of broad patriotic views, ardently devoted to the South, his opinions are worthy of serious consideration and of practical application.

Sustaining the Railroads.

The subject of corporations as objects of greater taxation to meet the needs of increased revenues for the State has been under discussion in connection with proposed legislation in North Carolina. The measure as originally contemplated involved, it seems, the taxation of the gross earnings of the railroads in the State, in addition to the property tax they are now paying. In an argument before the joint finance committee of the legislature in opposition to the measure it was pointed out that while there might be a difference in the manner of determining the value of different kinds of property, there should be but one rule and one method in order to create an equality before the taxing law, and it was added:

That railroad property, in common with other classes of property, be required to contribute, by taxation, to the maintenance of State, county and municipal governments, is a proposition that no reasonable or fair-minded person will for an instant dispute. On the other hand, it is an equally self-evident proposition that its fair and reasonable proportion, as compared with other classes of property subject to the like burden, is all that it ought or can justly and fairly be required to bear. The theory of our constitution and the purpose of our law is to secure as nearly as possible equality and uniformity in the distribution of the burden of taxation, as between the different classes of property and the many taxpayers of the State.

It was argued by advocates of the measure that the railroads were not paying their share of taxes. This was disputed, however, for the Newbern Journal, which, in a tone of regret, characterized railroad corporations as "this never-failing source for political and pecuniary assaults," and asserted that no bill or measure could be more unwise or unjust, said:

There can be no question of the immense benefits which railroads are to North Carolina. They have led the procession of progress and development, have promoted industrial schemes and paid for the work. Their taxes are of tremendous assistance in keeping up every portion of the State, and in times of need, like that of the recent storm period, they have carried aid freely and without charge.

Many of the members of the legislature have in the debate upon the measure expressed themselves as favorable to the railroads, and the fact that there has been such opposition to the measure is an indication of the growing sentiment against an influence still militant in some States, which seems to regard corporations as legitimate legislative prey, or as the untiring and exhaustless bearers of increasing bur-

dens. In some instances this influence has manifested a tendency, where there has been a demand for equalization of taxation, to disregard a scientific revision of taxation, paralleling a reduction of unnecessary expenses in government, and to throw the whole increased weight upon corporations, as though they should be in a measure fined because they have conferred benefits upon the State by their existence, or through some occult devices are inexhaustible sources of revenue. The growth of the healthier sentiment is found likewise in Tennessee, where it is also needed just at present, in the face of the proposed privilege tax on railroads, which the Milan Exchange regards as unreasonable a thing as has been suggested.

In the meantime, the good sense displayed by interested parties in Texas in reaching a compromise is having its good effect in quarters where sanity in the relations of the State and corporations is one of the greatest inducements for the transfer of capital from places where it is in abundance to places where it is most needed. The recent compromise of the Texas railroads and the Texas railroad commission furnishes a text to the New York Financial Chronicle on the benefits of harmony and co-operation. It commends the conciliatory attitude of the railroads in being willing to meet the commission half way and in their desire to obtain no unfair advantage, and it adds:

Though the Texas roads apparently gain very little, the effect must nevertheless be beneficial. A new principle has been established in the dealings between the roads and the commission, and it is fair to assume that this method will be continued in the future, thus avoiding much friction and unnecessary strife. The settlement is also advantageous from another standpoint. It must tend to raise the roads in public estimation, and thus remove some of the popular prejudice against them. As Chairman Reagan well says, litigation has already engendered much passion between the people and the carriers, and a continuance of the litigation would have meant a continuance and aggravation of this strife, to the great injury of all. The interests, convenience and prosperity of the Texas people are promoted by the existence of the railroads, and the roads in turn are dependent on the people for their necessary revenues. Neither can prosper without the concurrent action of the other. Their relations and interdependence demand fairness and good-will on both sides. This is the spirit that has guided the commission in agreeing to a compromise, Mr. Reagan asserts. It is to be hoped the same spirit will control its course in the future. If it does, a new era will dawn for the Texas roads.

The experience of Texas ought to be of service to other States which, with Texas, are striving to attain their highest development.

The argument sometimes advanced that there may be in the South a superabundance of textile schools does not seem to apply in Massachusetts, which is a pioneer in the establishment of such institutions. Already Lowell and New Bedford have textile schools which are doing excellent work, and now there is a strong movement for the establishment of one at Fall River.

The plan was broached a year ago, but was held in abeyance during the war. The significance of its revival and an indication of the interest in it on the part of manufacturers and the working people is that Massachusetts legislators are engaged in a friendly rivalry for the honor of introducing the bill for its establishment.

Exploiting the South.

Notwithstanding the unprecedented weather at the time, the interstate farmers' convention at Vicksburg, Miss., in February, in organizing which Capt. J. F. Merry, assistant general passenger agent of the Illinois Central Railroad, was largely instrumental, was eminently successful. Secretary of Agriculture Wilson was one of the visitors, and, according to a letter to the Manufacturers' Record from Captain Merry, he was so much impressed with the character of the addresses and the papers presented at the convention that he has volunteered that his department compile them in pamphlet form and issue them as a Southern bulletin, sending thousands of copies to each of the Southern States. The addresses made at the convention were of a most practical character, offering an opportunity for a comparison of Northern and Southern experiences, and the bulletin will be one of the most valuable that has ever been issued. Its publication under the auspices of the federal government is a striking and gratifying illustration of the effect of railroad enterprise in seeking to build up the South.

Louisville on the Qui Vive.

With a view to determining whether a special commissioner should be sent to Cuba and Porto Rico in the interest of Louisville manufacturers, a report on the commercial possibilities of the islands has been prepared by Mr. Charles Earl Currie and published by the Louisville Board of Trade. Mr. Currie has presented a report of great value based upon government and other publications on the subject, and the result of earnest co-operation of United States officials and those of England and Denmark in the islands and exporting firms and individuals in this country. His conclusion is that in the unsettled condition of affairs a special commissioner could accomplish nothing in the way of promoting trade in the islands, but that later it would be well to send, in the interest of manufacturers of Louisville, a capable and representative person to make a close personal investigation. In preparation for such a visit the report presents in a succinct form the opportunities for trade in both Cuba and Porto Rico and points out the difficulties that should be overcome. This piece of enterprise on the part of the Board of Trade is in line with its policy of leaving nothing undone to extend Louisville's trade to foreign markets. The careful and systematic work done in the preparation of this pamphlet will undoubtedly pave

the way for Louisville manufacturers, when trade, which is already underway, may be carried forward with no impediments.

For Technical Training.

The editor of the Montgomery (Ala.) Advertiser has talked with gentlemen connected with the cotton mills of that city, and has come to the conclusion that it is difficult to get men competent to superintend various branches of cotton manufacturing. It says:

It is not a matter of trained hands and eyes that is wanting, but the advantages only to be derived from a special technical education. They must understand the theory as well as the practice of the work. Just as the skillful chemist knows that certain simple substances, when united in certain proportions, will produce a compound of certain strength, and productive of certain effects, so the educated cotton specialist can tell by calculation just what will be the weight of a yard of cloth woven of a certain number of threads of a certain fineness. The uneducated artisan would have to ascertain by slow and time-wasting experiment what the other had "figured out" from his trained mind. This is the class of men who are and will be both invaluable and indispensable in Alabama, and our own young men ought to be prepared to fill all such positions—positions, it must not be forgotten, which are not only now in waiting, but which will be constantly multiplying as the inevitable increase of cotton mills goes on in the State.

The legislature was urged to provide means to meet this emergency. Here is another proof of the growth of the conviction of the value of textile education in the South, and an indication that the State which leads in establishing the institutions for special training in this direction will probably lead in cotton manufacturing.

Appropriate to this is the following from the Chattanooga News:

Tennessee needs school of technology more than any other institution of a public nature. Good examples in this respect have already been set by Georgia and other Southern States. This is one reason why other States are getting the new mills that are constantly being established in the South of late.

Much regret is expressed at the prospect of the resignation by Gen. Stephen D. Lee of the presidency of the Mississippi Agricultural and Mechanical College to accept the appointment as one of the commissioners of the Vicksburg Military Park. General Lee has devoted some of the best years of his life in successfully directing the college and in preparing the young men of the State for an intelligent exercise of their abilities in the material advancement of Mississippi. His immediate work at the institution may come to an end, but its effects will long be felt to the advantage of the State.

The Southern Farm Magazine.

With the March number the Southern Farm Magazine of Baltimore enters upon its seventh year. It has steadily improved in all respects, and its announcements of contributors for 1899 is a promise of articles of practical value to the Southern farmer who wishes to keep abreast of intelligent movements in his line. Two of the special contributors, Hon. Wm. Morgan Beckner and Col. J. B. Killebrew, have articles in the March number, the first treating of the South's attitude toward capital, explaining lucidly the situation as it is today and setting forth clearly the necessity for an encouragement of creative capital; the second dealing with the conditions and tendencies of Southern agriculture, a broad, comprehensive review of conditions as they exist today, and an appeal for first-class work in the agricultural colleges and for first-class men as commis-

sioners of agriculture in the several States.

Special attention is given to the subject of the city of Baltimore's interest in the South. In this connection are published a number of specially-prepared articles showing the commercial, industrial and social relations of the city and section, and describing the operations of individuals and companies who are particularly interested in the South. Among the topics discussed are the grain trade, transportation facilities, commerce, canning factories, lumber, education, trust companies, banking firms, steamboat and railroad companies. The material contained in these special articles is not only of temporary importance, but is valuable for future reference.

Other articles are by Mr. Charles Halllock, on North Carolina oysters; by Sydney Smythe Boyce, on more hemp and less cotton; by Mr. Samuel B. Woods, on red-poll cattle for beef, and a number of others summarizing the recent meetings and other movements for the upbuilding of the South and plans for its future. The special departments of the magazine are up to their usual high standard.

The Southern Farm Magazine is published monthly by the Manufacturers' Record Publishing Co., Baltimore, Md. Price \$1 a year.

Building at Greensboro.

[Special Cor. Manufacturers' Record.]
Greensboro, N. C., February 25.

The leading development of the week at Greensboro has been the contract let to the Cape Fear Manufacturing Co. by the Cone Export & Commission Co. for the erection of 100 dwellings, which is a portion of the 240 to be built. These houses are in anticipation of the large additions to be made at Proximity Cotton Mills, who will double capacity of their plant, making it one of the largest in the South, and who now send salesmen over the entire United States and many foreign countries. The Cone people have recently completed a number of handsome dwellings on a beautiful avenue ninety feet wide and well paved at a cost of \$100,000. Although several hundred new dwellings were erected throughout this city in 1898, the universal cry is "Where can I rent a house?" and business houses are about as scarce. There are good opportunities here for capital and especial advantages for farmers of modern ideas.

G. T. KEARSLEY.

Coal in Kentucky.

During 1898 the commercial coal mines of Kentucky produced 3,542,132 tons, a gain of 238,079 tons over 1897. The use of machines in the mines has gradually increased until today there are 171 in use, mining 43 per cent. of the coal. In 1895 but 26 per cent. of the coal was mined in this way. Forty-nine of the machines are operated by electricity and the others by compressed air.

Would Settle South.

In a letter to the Manufacturers' Record, Mr. Thomas L. Ince, of Bridgetown, Barbadoes, West Indies, writes that he desires to settle in the South and is seeking information about Southern cities.

The Floyd County (Ga.) Industrial Association has published an attractive pamphlet presenting a compilation of facts for the information of home-seekers, business men and the world at large. Descriptive matter has been carefully prepared and the information is accurate. The pamphlet is illustrated from photographs of the divers interests represented in Rome, Ga., and its vicinity.

THE SOUTH SHOULD DEAL LIBERALLY WITH CAPITAL.

By William Morgan Beckner.

Under the patriarchal system prevalent in the South prior to the civil war land and slaves were its chief elements of wealth. Of these, one had disappeared forever when the thirteenth amendment was adopted. The other has ceased to be what it was, because the world is no longer as dependent as it used to be on that region for staples whose production it then almost monopolized. When the struggle with the North came it quickly became evident that the loftiest courage and greatest aptitude for arms are of little avail in such a conflict when not supported by commerce and manufactures or the money they produce. The South had been slow to realize that she had all the time had within her confines sources of wealth far richer than slavery could furnish or than could be found even in her enormous crops of cotton. The practical Yankees, who, as soon as her doors were open, began to survey her possibilities, cared far more for her timber, her coal and iron and her water-powers than they did for the great plantations and the lordly mansions, of which their owners had been so proud. As a result mines have been opened that have supplied coal to our steamships, and even to Europe, and coke to the shops and factories of the North; furnaces and steel plants have been located that have made iron and its products cheaper than they can be produced elsewhere in the world; saw mills have been constructed from which lumber is shipped to Boston, New York and the other great cities of the North, and even to Europe and Africa, and cotton mills, with the raw material at their doors, and with convenient fuel or streams to run them as powerful and constant as the Merrimac, have distributed most astonishing dividends.

And yet it is evident that the development of the South has but begun. Her timber resources, her mineral deposits, and, greatest of all, her agricultural and horticultural possibilities, have so far hardly been inventoried. The geologist has barely begun his work. The reports of engineers as to the improvement of her rivers and harbors are still incomplete. The value of her native fertilizers in rendering productive her soil has had slight consideration. In the main her cattle are scrubs, her horses plugs, her hogs razor-backs and her sheep of the cheapest grades. And yet her people are of the most robust blood that the world contains. They are descended from Saxon and Huguenot ancestry, and there has been little immigration to weaken strains so worthy. Nevertheless it is easy to see that they have not made such progress as have their fellow-countrymen in the Eastern and Middle States.

In large part this has been because they lacked the capital, which does not go where it receives cold welcome or is inadequately protected. To be sure, the people have been too busy with problems of more moment than commercial or material development to study economic questions as their leaders used to do. The settlement of race supremacy and the struggle to secure honest local government have made them disinclined to favor the coming of those who, from mistaken sympathy, might strengthen the bad elements with which they were contending. But at last the Spanish war has made North and South one country, and each star in the flag again shines with equal lustre. The land of Wheeler and Hobson is just as free as is that of Shafter and Dewey. There is now no more fear of federal interference for political

reasons when brutal ignorance is suppressed in North Carolina than there is when it is not allowed to disturb conditions in Illinois. This being so, the old terror has passed away, and the time has come for the South to broaden its point of view and to quit the ranks of discontent and apprehensive unrest. It should fumigate against socialism, agrarianism and populism, and study the arts that will draw towards it more than it has ever had before of the surplus capital with which the world at present so much abounds. Its opportunities and responsibilities have been wonderfully increased by the result of the war with Spain. The two great West Indian colonies that we have freed from her yoke lie within easy reach of our Southern shores. The Nicaraguan canal, which is now a certainty, will wonderfully stimulate the commerce of Galveston and New Orleans and be materially beneficial to Charleston, Mobile, Savannah, Wilmington and Newport News.

Sanitary reforms in our new territory will rapidly minimize the danger of the yellow-fever epidemics that have been such a drawback to so great a portion of the South. Climate and all natural conditions invite immigration and the investment of capital. Their movement will be slow and cautious, however, if their welcome is not generous and cordial. We have listened so long to the demagogue and the quack political doctor that some of our people act as if they believe money to be the root of all evil, and that those who have it are in league with Satan. Of course, such feelings as these are based on ignorance and envy. Remunerative employment, opportunities for education and culture, and comfortable, happy homes are the fruits of capital. It was never so abundant in the United States as it is today, and can be had on easier terms than were ever before known in the history of the world. During the past few months many counties in central Kentucky have sold 4 per cent. bonds at a premium in order to raise money with which to secure free turnpikes. Millions more could have been disposed of on terms equally as favorable. There were counties, however, that have established characters for meeting their obligations, and the bonds will be so placed that the quicker machinery of the United States courts can be invoked to enforce their collection.

Some years ago, when in Philadelphia, I met an officer of one of the great trust companies of that rich city. He was telling me of the enormous amount of money that his institution held in its vaults, and how anxious it was to put it where it would bring a rate of interest, which seemed to me quite low. I suggested it could easily find borrowers in Kentucky at a higher rate than he had named, and on the best of mortgage securities. "We would never place our money in Kentucky," he answered, "because your laws make collections so difficult and expensive. When a borrower fails to pay the debt or interest he must be sued in a State court, and after many continuances and perhaps an appeal a sale of the mortgaged property may finally be reached, but there is a long redemption period, and costs and lawyers' fees will make the lender regret that he ever had any money to take care of." His criticism was too well founded. In the great commercial States, in case of default in payment a trustee can sell without a suit to foreclose a mortgage, and the result is that the man prompt

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to meet his obligations is not compelled to pay a heavy penalty because of the indifference or thriftiness of his neighbors.

One of the needs of the South is to send to the State legislatures practical, up-to-date business men, and not so many howling demagogues and narrow-minded politicians. This, I fear, will never be done, however, until the masses, through ampler facilities for popular education, have themselves been better qualified to discriminate between the true and the false. The amount of blind, unreasoning prejudice against capital abroad in the land is amazing.

A few years ago, whilst on a journey, I was a listener to a conversation held by some young men around the stove of the village tavern in an undeveloped region of the South. Among other topics, they were discussing a recent purchase of coal and timber lands by some Eastern parties. They all seemed to agree that it was a piece of outrageous effrontery in a lot of foreigners to come in and gobble up property that had been so long held by resident citizens. Whilst they were working themselves into a fury over the matter an old fellow, about half drunk and quite seedy in appearance, came in and took a seat near them. One of the young men turned to him at last and said:

"Uncle Jim, what do you think about it?"

Straightening himself up and changing his gait, the old man replied:

"Boys, I've been hearing you talk. I've been here nigh on to sixty years, and have seen lots of 'em furriners come and go. Some of 'em had so much money they couldn't tote it on a horse or in a buck wagon, but had to bring it up the river in a boat. Dog my cats, if ever I seed one of 'em take out more than you could tie up in a bandana and sling across your back. Now, boys, who got it? Why we did, of course. Let 'em come. We can take care of all they bring."

There was much of good sense and shrewd observation in the old fellow's view of the matter, and greater men could profit by his observations.

Hardly less absurd than the prejudice against strangers seeking investments has been that felt towards corporations by so many people in the South. Of course, no patriotic person would favor allowing extortion or monopoly through a combination of any kind of forces, but our ordinary business corporations have no such power. They are a necessary part of the equipment of the highest civilization. They were used by the Romans and were not unknown to the Greeks. Our railroads, canals, turnpikes, water works, gas and electric-light plants and other essential improvements would never have been constructed if people furnishing the money could not have done so through corporations, and thus been protected against the risk of losing more than the amount invested in their capital stock. And besides, there are few of these enterprises that a single individual could build up of his own means.

There has been so much exaggeration as to the profits of railroads that many honest men look upon them as dreadful monsters, who are daily devouring the substance of the people without mercy or hindrance. And yet it is not long since 53 per cent. of the railroad mileage of the country was in the hands of receivers, and the amount of money lost in their construction and operation has been enormous. They have certainly, as a rule, not been prosperous in the South, where construction has been difficult, population sparse and freights uncertain. Some time ago I had occasion to look into the matter, and I found that in Massachusetts in one year the railroads carried

more than four times as many passengers as were transported during the same period in all the eleven States that formed the Southern Confederacy. And yet there are those who insist that the rates per mile in the South should be the same as those in Massachusetts. At the same time they would not ask a similar rule to be applied in any other line of business. The populists, who are loudest and most vehement in their denunciation of the danger of corporate power, with strange inconsistency urge that railroads, telegraphs and all other agencies of commerce should be managed and operated by the State, which is the most gigantic and irresponsible of corporations. Congress can regulate interstate commerce, but who shall regulate Congress? The same people profess to believe that the affairs of State are badly conducted, and, urgent as they are to add so enormously to their power and responsibilities, denounce all public officials as corrupt and unfaithful. Ridiculous and inconsistent as all this may seem to be, those who preach the most persistently have of late years been the successful politicians of the South.

Jefferson, Jackson, Davis, Stephens and Lamar were not demagogues, and never taught that whoever has accumulated property is therefore to be despised, or that government can by its fiat make money out of rags or give any commodity a value which commerce does not recognize. The rich men of America, as a general thing, began life as poor boys, and have been the architects of their own fortunes. In many instances they have been wonderfully generous and liberal in dispensing charity and encouraging learning. Astor, Chanler, Fish, Tiffany, Roosevelt and thousands of others showed during the past summer that they are as ready as any class of our population to bear privations and to surrender life itself for the public good. They organize corporations when they embark in enterprises. So do the honest sons of toil who combine in labor unions for their mutual protection and advantage. The same motive animates each class, and neither should be censured for taking care of themselves or of the capital in which each relies for a living.

Some of these reflections are trite and hackneyed, and to many readers may seem tedious and tiresome, but they are so true and important that the people of the South cannot have their attention called to them too often. Let the people of the South get rid of all provincialism and realize that they are a part of the most enlightened and progressive nation on the earth; that they are more than ever in the great current of commerce, and moving in a procession which will never stop until the whole world is familiar with its glories and has been stirred to rid itself of despotism, and that they cannot afford to encourage any policy that will drive capital from our borders or is not in line with the most intelligent thought of the age in which we live.

Winchester, Ky.

Pine Bluff Enterprise.

The purposes of the Commercial League of Pine Bluff, Ark., recently organized, are to promote the commercial and the industrial interests of the city and to cultivate just and equitable principles of trade. The officers are: President, Fred Fox; vice-president, R. C. Wilkins; secretary, E. D. Russell; treasurer, W. H. Langford; executive committee, Fred Fox, R. C. Wilkins, W. H. Langford, W. H. Westbrook, J. W. Wilkins, D. M. Bluthenthal, E. C. Arnold, Simon Bloom, J. H. Mann, Isaac Dreyfus and P. P. Byrd.

IMMENSE DRAINAGE PROJECT.

Enterprise of New York Capitalists in the Arkansas River Valley.

[Editorial Cor. Manufacturers' Record.]
Holly, Col., February 3.

New York's financiers are accustomed to do things on a large scale. There is no section of our country which has not felt the good results of their great development undertakings in building railroads, in opening up mining enterprises and creating extensive manufacturing interests, but familiar as the writer is with many of these widely scattered interests which have blessed the country, while increasing the wealth of the long-headed financiers who are causing two blades of grass to grow where not even one grew before, I do not know of any individual enterprise planned on a broader scale than the irrigation development now being worked out in this Arkansas river valley, in Prowers county, Colorado. Four New York men—Mr. John E. Searles and three associates—have engineered and own this great enterprise, have for several years been at work on this undertaking, and they have now completed the greatest irrigation enterprise in America, and one well calculated to stand alongside of the greatest irrigation works of the world. They own a princely estate of nearly 150,000 acres of land, which under irrigation becomes wonderfully productive and yielding abundant crops to the tiller of the soil with a regularity unknown where the farmer must depend only upon nature's provision of rain, which, though it falls upon the just and the unjust, comes with great irregularity. In some years his crops are drowned by too much rain, and in others parched for lack of rain. Not so, however, in a well-irrigated country, where the supply of water is uniform year in and out. But those who depend upon irrigation find that sometimes even the rivers from which they draw their supply fall short. To provide against this contingency the importance of storage reservoirs has been seen, but few have been bold enough to carry out this work on such a scale as has been done by Mr. Searles and his associates. Finding some natural basins on the plains near their property, they enlarged their purchase in order to secure them. Then by skillful engineering they developed a system of reservoirs covering 14,000 acres of land, with an extreme depth at some points of ninety feet. Into these reservoirs they turn the surplus supply of water not needed in winter, thus securing a volume of reserve water for emergency sufficient to cover to the depth of one foot over 180,000 acres of land. The company owns 350 miles of irrigating canals, constructed in the most substantial manner, and has 150 miles of telephone lines, with over twenty stations, connecting the leading points on the canals with the company's central office at Holly. This is the local headquarters of the company, from which the active management is handled by Mr. W. M. Wiley and his assistants. Now that the great work of canal construction and reservoir building has been completed in the most substantial manner, the land is being sold off quite rapidly to farmers who are coming in from the Western States. The success of farming in this valley with the aid of irrigation has been so satisfactory that a large inflow of population is assured. It is an interesting fact that this great undertaking has been carried out without issuing bonds, and that there is no debt against it.

This work is carried on under the name of the Great Plains Water Co. Its operations extend along the line of the Santa Fe Railway and the Arkansas river for more than 100 miles.

The constant sunshine and the extreme

fertility of the soil when water is applied to it convinced Horace Greeley in 1870 that life on an irrigated farm in the arid West was the ideal one for farmers, and so with zeal and energy he preached "Go West, young man."

The splendid results of the Union Colony which he established at Greeley, Col., have proven his judgment to be correct. It is said that nowhere on the American continent are the marks of prosperity and happiness more apparent to every casual observer and to the careful investigator than they are in the country around Greeley.

Since the establishment and permanent success of this community of irrigation farmers many others have started up, until the waters of the arid region have been to a large extent appropriated to irrigation purposes.

The Great Plains Water Co., which began its operations in 1894, was tempted into its present field of operation by the very many conditions necessary to successful farming that the Arkansas valley presented. Its enormous works today show that the plan was carefully conceived at its conception and that it has been more thoroughly carried out than any other irrigation enterprise on this continent.

The motto of its builders is shown by the condition of its structures to have been "Thoroughness." This motto was adopted because it was considered to be more economical in the long run to put thoroughness in the construction at the first than to make repairs for bad construction later on.

Today every mile of canal and every structure shows the result of this policy.

For the better understanding of the construction of this enterprise, the waterways can be divided into direct-delivery canals, supply canals, reservoirs and outlet canals.

Direct-Delivery Canals.

The direct-delivery canals, which means those which take their water directly from the Arkansas river to be delivered onto the lands, are the Amity canal and the Buffalo canal.

The Amity canal is, perhaps, the best constructed irrigation canal in the United States. There is not a flume in its entire length of 110 miles, and in this alone breaks the record of the world. All of the creek crossings are made at the grade of the canal. While this method was more expensive in its first step, the reduced cost of maintenance for all time more than repays this first cost.

The headgate of the Amity canal is at the juncture of Prowers and Bent counties, located at the foot of the great rock upon which old Fort Bent was a landmark for so many years during the history of the great Santa Fe trail. It was at this fort that Kit Carson made his headquarters and near it that he died.

This canal is 110 miles long, thirty-three feet wide on the bottom, fifty feet wide on the top and six feet six inches deep, and has a carrying capacity of 900 cubic feet per second of time. The priority of the Amity canal is one of the oldest on the Arkansas river and entitles it to water ahead of all but three other canals or ditches.

By reason of their being no flumes in its entire length a man can drive a horse and buggy from the headgate to the end of the canal, 110 miles, without ever leaving the banks. The grade is constant from the headgate to the end, being one foot to the mile, experience having taught that the silt-laden waters of the Arkansas river do not wash at this grade and do not deposit silt at this speed.

Perhaps one of the most interesting features of the Amity canal are its sand-

gates, located a mile from the headgate, which, by an ingenious system, throw out of the canal the accumulation of sand and silt which would otherwise be deposited within the first few miles of its leaving the river.

The Buffalo canal has its headgate north of the town of Granada, and runs fifteen miles east to the Kansas State line. It is sixteen feet wide on the bottom, thirty feet wide on the top and four and one-half feet deep, and has a carrying capacity of 200 cubic feet per second of time.

The priority of the Buffalo canal is one of the oldest on the river, being ahead of even that of the Amity canal, and the farmers under it have learned from experience that no matter how much other people may need water the Buffalo farmers have always water to spare.

There are lying under the Amity and Buffalo canals, subject to irrigation, about 100,000 acres of land.

Reservoirs.

The reservoirs of the enterprise are a series of great basins or depressions in the prairie, located about twenty miles north of Lamar and so that they can feed both the Amity and Buffalo canals.

TABLE OF RESERVOIR CAPACITIES.

	Unavailable.		Available.		Total.	
	Acre-Feet.	Cubic Feet.	Acre-Feet.	Cubic Feet.	Acre-Feet.	Cubic Feet.
Nee Sopah ..	10,908	475,152,480	23,464.50	1,022,113,620	34,372.50	1,497,266,100
Nee Gronda ..	39,860	1,736,301,600	57,209.00	2,491,806,240	97,069.00	4,228,107,840
Nee Noshe ..	21,485	935,886,600	60,636.50	2,641,325,240	82,121.50	3,577,212,540
Nee Skah ..	9,939	422,942,840	23,046.00	1,003,909,896	32,985.00	1,426,852,732
King	18,279.00	796,233,732	18,279.00	796,233,732
Total	82,192	3,570,283,520	182,635.00	7,955,419,428	264,827.60	11,525,702,948

One acre-foot of water equals one acre twelve inches deep.

The high-water contour of these reservoirs is over sixty miles. Engineers and laymen have heard and read of the wonderful irrigation works and storage systems of India and other countries. They respectively admire and wonder at the permanency and magnitude of these works. Apart from those closely interested, these same people scarcely give our home developments a thought, and yet in this Arkansas valley there is already a complete system of storage reservoirs, with a total available capacity for irrigating equal to anything in India or elsewhere.

The reservoirs are remarkable not only for their extent and capacities, but for their absolute safety. They are natural depressions in the prairie, requiring no heavy fills or dangerous dams across valleys.

They have been given Osage Indian names—Nee Sopah, meaning "Black Water;" Nee Gronda, "Great Waters;" Nee Noshe, "Standing Water;" Nee Skah, "White Water," and King reservoir.

Of these the Nee Sopah, Nee Gronda and Nee Noshe are connected together by cuts, forming practically one reservoir, and the water here is impounded by a fill only a few feet high and a few feet wide at one point. This fill is rip-rapped to prevent its injury by wave action. These three reservoirs have an independent outlet. The Nee Skah has an independent inlet as well as outlet.

The structures at the outlets of the reservoirs consist of sandstone masonry, retaining walls and wing walls and arched culverts, in which are built the pipes and valves. The water will pass through the retaining wall by 30-inch iron pipes, on the reservoir ends of which are cast-iron sluice valves operated by rods and gearing from the top of the retaining wall. All facework is of coarsed ashler, which, with the heavy capping stones of the wall, gives the structure the appearance of solidity and security.

In one outlet structure has been put 1950 tons of rock, 160 loads of sand and 350 barrels of cement.

The view from the east end of the nar-

row divide separating the lower waters of the King from the Nee Skah reservoir when both are full to high-water mark will be one which the eye of the inhabitants of the plains is little accustomed to and which those who come from a more favored locality in which land and water views are common will keenly appreciate.

It is estimated that one and one-half acre-feet of reservoir water will irrigate one acre of land. That would make 120,000 acres of land susceptible of irrigation from these reservoirs alone.

One of the greatest intrinsic values of these reservoir sites is the fact that there are no mammoth masonry dams, a casualty to which would not only cause a great financial loss to the company and to the farmer, who would thereby lose his water, but endanger the lives of the people who live under them.

Supply Canals.

The supply canals are the Fort Lyon, Kicking Bird and Santanta canals. An examination of the ground showed that for forty-two miles the Fort Lyon canal would be used by the Great Plains Water Co. instead of building its own line, and while there were certain advantages in

building its own line directly to the river, it was decided that because the farmers needed help in the Fort Lyon canal to put their property in first-class condition, and because this help could be given to them without great expense to the Great Plains Water Co., to enlarge this canal and use it for this distance.

From Gageby Aroya, where it was necessary to build a new canal in order to gain height in filling the reservoirs, the Kicking Bird canal was built, making a distance from the river at the headgates of the Fort Lyon canal to the reservoirs of seventy-eight and one-half miles.

The Fort Lyon canal is forty-six feet wide on the bottom by seven and one-half feet deep. Its enlarged portion and that in which the Great Plains Water Co. has an interest is forty-two miles long.

The headgates of the Fort Lyon canal is the first attempt in America to build an indestructible structure of this kind of vitrified brick and cement. This headgate is so constructed that the water comes in contact with none of the wood-work, and it is hoped by those interested in irrigation that all headgates in future will be built along these lines. There are thirteen gates, with a total clear waterway of sixty-five feet. The structures of the sand and waste gates are similar to those of the Amity canal.

The Kicking Bird canal (named after the great Kiowa chief "Kicking Bird") leaves the Fort Lyon canal at Gageby Aroya, where the division gates, permanent and expensive structures, are located. From this point to the reservoirs, a distance of thirty-six and one-half miles, there are no flumes and no work which will probably be in need of repairs. This canal is thirty-six feet wide on the bottom, sixty-six feet wide on the top and seven and one-half feet deep, and has a carrying capacity of 1100 cubic feet per second of time.

The Kicking Bird canal was built by the same engineer who built the Amity canal, and if there is any canal on the continent superior to the Amity in its workmanship and alignment it is the Kicking Bird. After having carried its full capacity for a year it shows no ero-

sion and has improved rather than deteriorated. This is the great consideration of all of the work of this company.

The Santanta canal (named after the noted Kiowa chief "Santanta"), which is an independent canal for filling the Nee Skah reservoir, leaves the Kicking Bird by properly-constructed division gates at a point about a mile from its end, and from that point to the Nee Skah reservoir is twelve miles long. It is sixteen feet wide on the bottom, forty feet wide on the top and six feet deep, and has a carrying capacity of 300 cubic feet per second of time.

Outlet Canals.

The outlet canals are the Comanche and the Pawnee. The Comanche canal is the outlet from the upper tier of reservoirs into the Amity. It is sixteen miles long, eighteen feet wide on the bottom, forty-two feet wide on the top, six feet deep, and has a carrying capacity of 400 cubic feet per second of time.

The Pawnee canal is the outlet of the Nee Skah reservoir, and joins the Comanche canal about six miles from its upper end. This canal is six miles long, twelve feet wide on the bottom, thirty-two feet wide on the top and five feet deep, and has a carrying capacity of 200 cubic feet per second of time.

The same thorough construction and workmanship is shown in these outlet canals as in the other work of this company.

Wherever the grade was greater than one foot to the mile expensive and permanent drops have been put in to keep the water from wearing away the soil.

The value of reservoir water for irrigation purposes can hardly be overestimated. The Greeley colony, from which all of the later enterprises have had to learn, has long since demonstrated that even the canals with the earliest priority on their river need a supplementary supply of reservoir water to make irrigation entirely successful, and it is estimated that the same amount of reservoir water would irrigate almost twice as much land as that taken by direct delivery from the river, because reservoir water the farmer can use when his crops need it, whereas in river water he has to use it when he can get it.

The products of this section of the country make one readily believe the statement of the natives, that this is destined to be one of the most successful agricultural districts of this continent.

Lambs fattened in this valley on their wonderful crop of alfalfa and corn, which they haul from Kansas, have already been recognized on the markets of the world as the best mutton that can be produced.

They tell of a herd of 10,000 sheep shipped to Glasgow, Scotland, which sold for more per pound than the Scottish-fattened sheep. As Scotland is the home of mutton it seems almost incredible.

The cantaloupes of this valley have already reached the markets of New York, Boston and Baltimore, and bring on these markets three and four times as much as the home-grown product.

It has been discovered that celery and cauliflower grown here are of a peculiar crispness and whiteness, and the fruit merchants of the East are beseeching the farmers of the valley to organize themselves into associations and ship quantities of these goods.

The result of hogs pastured on the wonderful crop of alfalfa, which is the stable product, is truly marvelous. It is claimed that hogs can here be raised at an expense of one cent per pound and sold at from three and one-half to four cents per pound.

The cattlemen say that this valley is

destined to be a great cattle-feeding or fattening district.

There is no part of the United States more interesting to the historian than the old Santa Fe trail, along which this enterprise has been constructed. Cabeza traveled this trail from Mexico in 1536; Coronado traveled it in 1541, and for 300 years after that this was the great artery of Western commerce. There is hardly a mound or promontory for 100 miles but has its history of blood and carnage.

RICHARD H. EDMONDS.

COTTON-CARRYING RATES.

The Round Bale in Respect to Freight and Insurance.

The New York Journal of Commerce publishes an interview with Col. A. B. Shepperson, the noted cotton expert, who points out some of the advantages of the American Cotton Co.'s round bale from the insurance and transportation standpoint. The Journal of Commerce says:

"The merits of cylindrical cotton bales are being freely discussed in insurance and freight circles at the present time, and efforts are being made to determine their relative advantages over the old style of package. Mr. A. B. Shepperson, who is a strong advocate of the new form of bale, when questioned by a representative of this journal, said: 'One has only to examine the cylindrical bale, and to understand the principle upon which it is pressed and baled, to see clearly that the risk of fire and the amount of damage to ensue therefrom are infinitely less than on the compressed "square bale" of cotton. The old style square bale, as it leaves the "ginhouse" and before its second compression, is a veritable tinder-box. Loosely packed into jute bagging, an article more inflammable than the cotton itself, and with meshes so wide that the cotton shows through them, and often with portions of the sides uncovered, thus leaving the cotton entirely exposed, the "planter's square bale," as it is called, is about as combustible as anything known to general commerce. In the friction of the metal bands which hold all "square bales" together (compressed as well as uncompressed), there is always the menace of fire without any outside agency whatever. Many fires on shipboard have undoubtedly been due to the friction of the bands against the bands of other bales caused by the rolling and pitching of the vessel.

"The insurance associations which regulate the business of the fire insurance companies doing business in the East, West and Southwest, place the cylindrical bales in the class of risks known as "non-hazardous," while all cotton in square bales, whether compressed or uncompressed, is classed as "extra hazardous." Fire insurance companies have three classes of risks, viz.: "Non-hazardous," which includes such articles as pig iron, pig lead and the like; "hazardous," which includes the great bulk of merchandise, and "extra hazardous," which, as the name implies, includes combustible and inflammable articles, upon which the very highest rates are charged, while the very lowest rates are upon the "non-hazardous" class. The insurance on cotton in square bales (no distinction being made between compressed and uncompressed bales) is at the same rate as on hay, jute, oil, the products of petroleum and other highly inflammable articles. Cotton put up in cylindrical bales can be insured against fire at the very lowest rate charged for any commodity.

"The "book rate" for fire insurance here is twenty cents for "non-hazardous" and 100 cents for "extra hazardous" classes. If a warehouse contained nothing but cylindrical bales of cotton the

rate would be just one-fifth of what it would cost to insure old style compressed "square bales" in a similar warehouse. My informants are well known all over the country as bearing the very highest reputation in insurance circles.

"In respect to marine insurance I have made inquiries of several of the most prominent marine insurance companies. One of them I am confident is favorably known in every place in the world in which an American flag floats over an American deck. I learn from them that the rates of marine insurance on cylindrical bales are 20 to 30 per cent. less than on compressed "square bales." The difference would doubtless be greater but for the fact that square bales are almost always carried on the same vessel with cylindrical bales, and the liability to fire from the danger inseparable from the square bales increases the risk somewhat on everything on board.

"The loss from "country damage" which absorbs so large a share of the premiums of marine insurance on square bales is practically nothing on cylindrical bales. The density of cylindrical bales is so great and they are so completely covered with closely-woven cloth that they are perfectly protected from mud and wet. As the cylindrical bales are of uniform size, the ends are never cut off to make better stowage, as is often done with some old style "square bales" which are too long to stow to advantage. It must be perfectly evident that uniformity of size of articles to be stowed in vessels, cars or warehouses is a matter of the greatest consideration in fixing the rate to be charged for freight or storage. It enables the capacity of vessels, cars or warehouses to be calculated closely, and thus enables the vessel agent, the railroad agent or the warehousemen to know how much can be realized from any stated rate of freight or storage. If the capacity cannot be calculated because of lack of uniformity of packages, then a rate must be charged sufficiently high to certainly cover this element of uncertainty.

"Our railroads are so bound up by federal regulations for interstate commerce, and by agreements to protect old-style compresses, built on their lines, that many of them cannot openly discriminate in favor of cylindrical bales, but none discriminate against them. Considerably greater weight of cotton in cylindrical bales can be loaded into cars than in compressed square bales, because of its greater density and uniformity in size. As the railroads can undoubtedly earn more money by carrying cylindrical bales at the same rate of freight as compressed square bales, I have no doubt that in some way or other the shipper will be able to share a part of this gain. Vessel agents and warehousemen can make such rates as they think best for their own interests, without regard to others. From this port and from the principal Atlantic and Gulf ports cotton in cylindrical bales has been and is now constantly being shipped at rates considerably lower than obtained at the same time on cotton in compressed square bales. It is likely that it can always be done and the discrimination in favor of cylindrical bales will probably be greater hereafter, as the volume of shipments increases.

"Comparatively few cylindrical bales have been stored here, so I do not know what difference would be made from the rates charged for square bales, but I have ascertained that in markets where a great many cylindrical bales have been stored the rates for storage and labor were somewhat less than one-half of those charged for an equal weight of cotton in compressed square bales. In re-

gard to the question of stowage in vessels, a well-informed freight broker mentioned to me that the agents of several lines of steamships that had carried the cylindrical bales had said that the advantage in this respect of the round or cylindrical bales over the compressed "square bales" was equal to about 30 per cent.

"It can be safely stated in a manner so positive as to admit of no controversy, that cotton in cylindrical bales can be shipped to Europe, Japan, and by some routes to the New England mills, at considerably lower freight than compressed square bales; also, that lower rates of storage, fire and marine insurance can be had in nearly every market."

SCARCITY OF IRON.

Birmingham's Output Transferred Rapidly from Furnace to Cars.

[Special Cor. Manufacturers' Record.] Birmingham, Ala., February 28.

Compared with the week preceding, the iron market last week was quiet. Not because there was no inquiry, but because sellers were slow to name prices that would bring business. Sales agents are restrained yet by a curb bit, and buyers have frequently tried by personal application to secure supplies that could not be obtained through sales agents. Comparatively few succeeded. There were representatives of a large buying interest on the ground endeavoring to secure a big line for forward delivery. But no admission of success could be elicited. This is strong evidence in corroboration of the report of scarcity of iron elsewhere, as well as here. The fact must not be neglected that, commencing about July, the new plants now in course of erection will take daily from 600 to 1000 tons of iron from the Tennessee Company. Say it will be 22,500 tons per month, or 135,000 tons for the last half of the year. That is 40 per cent. of their output independent of the general market. The 60 per cent. left for the general market is, say, 200,000 tons. On an active market it is supply for only a few days. As a rule, gray forge cannot be had under \$9. On January 24 it was quoted at \$7.50 to \$8. No. 2 foundry has sold at \$10.25; but quote it at \$10. On January 24 it was quoted \$8.50. No. 2 soft sold at \$9.75. It usually is same price as No. 2 foundry, and worth on January 24 \$8.50. No. 3 foundry is held now by some at same price as No. 2 soft, and No. 3 foundry on January 24 was \$9.25. A glance at these comparative prices will show an average advance of \$1.25 per ton in about one month. And it isn't over. A still further advance in the near future is highly probable. The furnace yards show no sign of any accumulation of stocks. Buyers are clamorous for their deliveries, and the output has barely time to cool before it is loaded on cars. The export demand was good, but there was a temporary halt, owing to a divergence as to value between the buyers and sellers. But little of interest is current concerning warrants. One lot that was held at \$8.75 for gray forge is now held at \$9. The stock in warrant yards is now under 90,000 tons. The holders of warrants are comparatively few, and "a right smart sprinkle" of them are held as hedges against legitimate operations, and will probably not come out, even at material advance.

The Birmingham Foundry & Machine Co. has again been favored in securing from the rod mill the contract for the 1500-horse-power tandem engine. The rolling mill reports an active business and no difficulty in obtaining advanced prices on finished product; in fact, in some lines they are pushed to keep even with orders. The nut and bolt works continue behind on orders. Much work is being figured

on in all lines at all the shops. Work has begun on the \$80,000 business house mentioned previously and the St. Vincent Hospital, under the auspices of the Sisters of Charity, will soon be under way. Proposals are invited for the erection of the Hillman Hospital, to be of stone and brick. Its location will be in the heart of the city. Several other buildings of solidity and considerable cost are projected. One of the most important is that of Loveman, Joseph & Loeb, which involves the demolition of half a block and its reconstruction. On every side one is greeted with indisputable evidence of advanced improvement. J. M. K.

Eastern Iron Markets.

[Special Cor. Manufacturers' Record.] Philadelphia, Pa., March 1.

The iron trade is less active than a week ago, despite appearances to the contrary. The high prices have served to both stimulate demand and discourage it. A certain quantity of material must be had to enable manufacturers to do their work in hand. Pig iron has moved up to \$14 and \$14.50 for No. 1. Forge is \$12 to \$12.50. Bessemer, basic and phosphorous are all higher, but less is selling because of the small available supplies. Forge is in particular demand, and some furnaces are sold up to midsummer. Quotations are very unreliable, and might as well be omitted. Quotations are being called for constantly by wire.

The advance in billets has been a complete surprise, and it is simply impossible to make more than general quotations today. The figures spoken of are \$23 to \$24. The consumption of billets has greatly increased in the West, and the efforts of large consumers to cover their requirements has driven prices upward.

The bar mills have again begun booking early summer orders at 1.15 for common to 1.20 and 1.25 for refined and 1.30 for steel bars. All mill officials and brokers speak of the great pressure for bar iron and bar steel. The big car-building contracts is the occasion of the scarcity.

The sheet mills are all taking as much business as they dare, which is not much just at present. Yesterday inquiries were answered for large lots of heavy sheets for special purposes. All mills are crowded, and an increase of capacity is being arranged for more.

The advances in pipes and tubes have only served to stimulate anxiety among consumers to secure the promise of material for summer construction purposes. The latest quotations for thirty days' delivery show a sharp advance, a bonus, in fact.

The plate mills have again been obliged to disappoint three or four urgent customers, but their wants were too large for immediate attention. Prices are high, though it is hinted old customers continue to be favored not only in delivery, but in price. The fact is, some mills which are reported as oversold so far are not oversold, but are keeping places open for their old customers. Such quotations as 1.60 and 1.80 are often heard for tank, boiler plate and flange.

The merchant steel manufacturers have all booked as much business as they cared to at the higher range of prices lately announced. There is a disposition on all sides to buy as far ahead as possible, and this fact is made apparent every day. The hardware factories, implement, vehicle, tool and machinery establishments are all getting ready for a big year.

The demand for structural material is held in check by the structural mill people, who are conservative and desire to profit by any permanent increase in prices. The advances in shapes have been quite moderate, but the canvass recently made as to probable bridge-building requirements sat-

isfied the managers that there is abundant room and opportunity for an advance.

Steel rails are nominally \$23, but settled quotations are unknown. With billets at \$20 to \$21 at Pittsburg and higher quotations threatened, and possibly in force at this writing, it is simply impossible to quote correctly here.

Old rails are scarce at \$14 for iron. Scrap of all kinds are scarce, and quotations are pretty near what scrap dealers please to make them.

Retired With Honors.

Commenting upon the retirement of Mr. R. Curzon Hoffman from the presidency of the Seaboard Air Line, the Portsmouth (Va.) Star says:

"As the head of a great railroad property, Mr. Hoffman, from the day he took charge of it, manifested his ability to care for the interests entrusted to him. The history of Mr. Hoffman's presidency of the Seaboard Air Line is the history of that system's greatest prosperity and greatest achievement.

"But Mr. Hoffman was more than the railroad president concerned with the hauling of freight and passengers. His active and forceful public spirit found exercise in broad plans for aiding and encouraging the development of the country contiguous to his road. It was through these plans, wisely and liberally executed by Mr. St. John, the efficient vice-president of the system, that the people living in the territory tributary to the Seaboard Air Line came to know and appreciate Mr. Hoffman as a friend ever ready to take a leading part in any movement having for its object the betterment of the people of the South. Ocular proof of this fact can be found anywhere on the line of the road from Portsmouth, with its handsome headquarters building, to the rolling industrial school, and the farm is owned by the company, and by it operated solely in the interests of better methods in agriculture.

"In steadily pursuing this liberal and enlightened policy, Mr. Hoffman has come to be regarded as a public benefactor by the people living within touch of the Seaboard Air Line. As such he will be followed in his retirement with the gratitude and good wishes of all who are cognizant of the great and lasting work he has done for the South Atlantic seaboard."

For National Expansion.

Mr. D. A. Tompkins, of Charlotte, N. C., has published in pamphlet form an essay upon "National Expansion," in which he sets forth calmly and briefly the traditional policy of the United States with a view to correct prevailing misconception of the underlying principles, of which past political history is emphasized by the present situation. He does not expect unanimous acquiescence in the argument advanced by him, but he says, referring to possible objectors: "They have been found at all stages of our national progress, but this country has gone on fulfilling its mission in spite of all their misgivings and their prophecies of dire distress to come upon us as a government in case we went contrary to their ideas of national growth. However, to those who closely study the history of our national expansion it is believed that these thoughts will serve to turn their faces to the sunshine and inspire them with new zeal for the republic as it enters upon the fifth stage of a policy as old as this century."

A memorial to Congress from the Knoxville Chamber of Commerce sets forth the facts about climate, air, soil and water as illustrating the advantages of the city for the establishment of an army post.

COMMERCE.

This department is devoted to a record of the rapidly developing commerce of Southern ports.

AMERICAN GOODS ABROAD.

Manufacturers' Greatest Record in the Export Trade.

American manufacturers seem likely to make their greatest record as exporters in the fiscal year which ends four months hence. The reports of the Treasury Bureau of Statistics covering seven months of the fiscal year show that the exportation of domestic manufactures is \$23,000,000 greater than the highest record ever before made in the corresponding months of the fiscal year. During the seven months ending February 1, 1899, the exports of domestic manufactures amounted to \$182,336,503, or an average of a million dollars a day for every business day of that period. The imports of manufactures in the seven months under consideration amount to only \$147,200,972, or \$35,000,000 less than the manufactures exported. The exports of manufactures during the past seven months have been nearly 25 per cent. greater than the imports of manufactures.

Comparing conditions with those of a decade ago, the evidence of gain by our manufacturers is even more striking. In the seven months ending February 1, 1889, our exports of manufactures were \$78,751,933; in the seven months ending February 1, 1899, they were \$182,336,503, an increase of 131 per cent. in the exports of manufactures during the decade. On the other hand, imports of manufactures in the decade have fallen 23 per cent., despite the fact that the consuming population has meantime increased 25 per cent., the imports of manufactures in the seven months ending February 1, 1889, having been \$194,996,778, against \$147,200,972 in the corresponding seven months ending February 1, 1899.

The Port Arthur Canal.

According to a statement from President Stilwell, of the Kansas City, Pittsburg & Gulf Railroad, the last obstacle to the completion of the ship canal to Port Arthur, Texas, has been removed. As readers of the Manufacturers' Record are aware, litigation has been in progress for some time, the government being the last to make objection to the work. An opinion of the attorney-general of the United States has decided the Secretary of War to allow the work to proceed. The improvement has so far progressed that by March 5 vessels drawing twelve feet of water will be able to load directly at Port Arthur docks, the tidewater terminals of the Kansas City, Pittsburg & Gulf. Within six weeks it is expected to have a uniform depth of twenty-four feet to the same point, which will allow large-sized ocean steamships to load without the necessity of lighters.

Galveston's Export Facilities.

The Galveston Cotton Exchange has recently made a statement relative to the export facilities of this community which contains a number of interesting figures. The improved wharf frontage in the city now consists of 30,000 feet, or nearly six miles. According to the statement, the Galveston Wharf Co. can handle 3,660,000 tons of merchandise annually, and can clear 840 vessels without difficulty from its present docks. The warehouses represent an area of over 1,000,000 square feet, and can accommodate 200,000 bales of cotton at one time. In one month 500,000 bales of cotton have been carried, or an average of 600 carloads

daily. The statement also refers to the fact that there is fully 21,000 feet of water front which remains unimproved, and which can be added to the present terminal facilities if necessary.

Improving Gulf Cities.

The improvement of Gulf cities is a subject which is now being agitated by representatives of New Orleans who have been visiting Galveston and other points. One of its objects is to combine the efforts of New Orleans, Galveston and Mobile in a systematic manner to increase the trade of these cities with Mexico, the West Indies, Central and South America. Those who are interested are using the argument that municipal improvement, such as street paving, drainage and a good water supply, are factors in advertising the importance of these communities and in increasing their export business. The delegates to Galveston included members of the New Orleans city council.

A New Johnston Liner.

The Johnston Line of steamships has an addition in the Maplemore, which recently reached Norfolk on its first voyage. The Maplemore is 458 feet long, of 4000 tons register, and has a carrying capacity of 8600 tons. Like the other vessels of the Johnston Line, it is built with all the latest devices for stowing and transferring cargo, and is constructed of the very best material. It will load a miscellaneous cargo for British ports.

Another Steamship Contract.

The Maryland Steel Co. has recently secured a contract to build a steamship for a New York syndicate which will be the second of its kind to be built in this country. It will be independent of any particular line and comes under the class known as "tramp" vessels. The first of this class was recently completed at Bath, Me., for an American company.

Jottings at the Ports.

Two cargoes of steel rails were recently placed on shipboard at Sparrow's Point, Md. One consisted of 3200 tons for Havana, while a sailing vessel loaded 2500 tons for Australia.

Negotiations are under way in Chattanooga with the view of operating a line of boats on the Tennessee river for freight and passenger purposes between that city, St. Louis and other points.

The exports from Baltimore for the month of February included 5,228,821 bushels of grain, of which 4,000,000 bushels consisted of corn. Nearly 20,000 tons of coal and coke were shipped to Mexican ports, while over 8000 tons went to West Indian ports.

A Galveston dispatch is to the effect that arrangements have been made to establish a regular service between Galveston, Havana and other Cuban ports. Steamships will leave Galveston as frequently as business demands. The Munson Steamship Line, for which Fowler & McVitie are agents, will operate the service.

The value of the Southern exports to Pacific coast steamship lines is shown by recent clearances from California and Washington seaports. The steamship Belgian King recently cleared from Los Angeles with 6000 bales of cotton, while another vessel will load early in the present month with 7000 bales, in addition to metals and other goods.

A dispatch from Fort Worth, Texas, states that 6000 pounds of cottonseed from Dallas county have been shipped to Manila to be planted in the Philippine Islands.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

To Buy the Atlantic & North Carolina.

A syndicate has been formed to purchase the interest for the State of North Carolina in the Atlantic & North Carolina Railroad. W. J. Edwards, president of the Moore County Bank, of Sanford, N. C., it is understood, is at the head of the syndicate, which will offer \$300,000 for the line. A bill has been introduced into the legislature to authorize the sale. One condition of the transfer is that the owners shall give bond to extend the line 100 miles to Charlotte, Concord or Salisbury, N. C. In an interview relative to the proposition, Mr. Edwards is quoted as follows:

"If the Atlantic & North Carolina road is allowed to remain unextended and undeveloped, there is great probability of its being paralleled from Newbern to Kinston, where it is already tapped by the Atlantic Coast Line, and, therefore, cease to be a dividend-paying property. Besides, it is a well-known fact that the road and equipment are in a bad physical condition, and in the near future several wooden bridges along its line will have to be replaced with modern steel bridges, and that a sum of more than \$100,000 will be required to put this property in good condition. If sold to us it will be managed entirely by North Carolinians, composed of people living along the line of the road, and will be conducted solely with a view to making it a paying property by developing the country through which it runs. It will pay the State, develop the resources of Eastern North Carolina, give an independent competing line to that section and eliminate the road from politics. The gentlemen are of the highest character and business standing, and are in no manner connected with any other railroad company, directly or indirectly. We mean business, and we are prepared to do all that we promise."

The Atlantic & North Carolina extends from Morehead City, on the Atlantic coast, to Goldsboro, a distance of seventy-five miles. It is operated by the State.

New Roads in South Carolina.

The present session of the South Carolina legislature has granted charters to a number of railroad companies who propose to build lines in portions of the State which at present have but little transportation facilities. The majority of these roads will connect with the Seaboard Air Line and may be termed branches of it. In addition to the Carolina & Northern Railroad, recently referred to in the Manufacturers' Record, which is to be built from Lumberton to Marion, in South Carolina, the Marlboro, Marion & Horry Railroad Co. has been formed to build from Hamlet, in Western North Carolina, to Bennettsville, also Marion, in South Carolina. This road may be eventually extended to Conway. The business men of Conway have incorporated a company, which is termed the Conway Seashore Railroad Co., to build thirteen miles of line from the town mentioned to the Atlantic coast. The road will intersect a tract of 20,000 acres of timber land, while it is intended to establish a summer resort from Virgilina, Va., to Columbia. As already noted in these columns, the South Carolina & Georgia Railroad will build the proposed line to Spartanburg from Gaffney. A new corporation is the Union & Augusta, which intends building from Whitmile Station, on the Seaboard Air Line, to Union, and eventually to Augusta, Ga. It is understood that business men in Union are interested in this

line, also in a road from Union to Glenn Springs, which would be sixteen miles long if built. The people of Due West have formed a company to build four miles, which will connect this town with the Southern system.

Important West Virginia Line.

In a letter to the Manufacturers' Record Mr. W. J. Nicolls, president of the Preston Coal & Coke Co., states that work upon this railroad between Cecil and Rowlesburg, W. Va., is to begin as soon as the weather will admit. The road will intersect extensive coal tracts which the company owns in Preston and adjacent counties, and will be twenty miles in length, extending between two divisions of the Baltimore & Ohio system. In his communication Mr. Nicolls states that it is intended to go into mining operations on a large scale, also to erect coke ovens. The preparations for developing this property have been under way for over a year, and the company which has been organized includes Pittsburgh and other Pennsylvania capitalists. It is calculated that the mines owned contain three seams of coal, of which fully 15,000 acres can be mined at a very small cost. The other officers of the company are Samuel B. Huey, secretary and treasurer, and John Sliney, general manager. The company's headquarters are at 209 Betz Building, Philadelphia.

New Seaport for the Southern.

A dispatch from Mobile, Ala., states that arrangements have been made by the Southern Railway to lease the Mobile & Birmingham. It is admitted at the offices of the Southern system in New York that negotiations with this end in view have been under way. The Mobile & Birmingham extends from Marion, Ala., through Southern and Eastern Alabama to Mobile, forming nearly an air line between Selma and Mobile. It is fifty miles in length, and at Marion connects with the Southern system, having had a close traffic agreement with the latter by which it reached Birmingham. Its stock is owned largely in England, and it has excellent terminal facilities on Mobile harbor. The lease of the line will be to give the Southern an additional seaboard outlet at Mobile and a short route from the Birmingham mineral district to this city in competition with other large systems. The entrance of the Southern into Mobile will be a prominent factor in increasing the commerce of this city.

Important Short Line.

In the last issue of the Manufacturers' Record the statement was made that the English stockholders of the Vicksburg, Shreveport & Pacific Railroad had determined to build a line between Washkom and Jefferson, Texas. By the construction of this mileage a connection will be made with the Missouri, Kansas & Texas Railroad, which will give it entrance into Shreveport, La. The branch to be built is to be twenty-five miles in length. Shreveport has already become an important center in the Southwest. It is now on the Kansas City, Pittsburg & Gulf, also the Queen & Crescent system and the Texas & Pacific.

Good Record for the Southern.

The excellent train service of the Southern Railway has been shown during the past year, especially in the movement of troops. According to the reports there have been sold over the Southern system nearly 200,000 soldiers' tickets. This includes the troops which moved in regiments and companies as well as those who visited their homes on furloughs from Macon, Anniston, Columbia, Lex-

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ington, Chickamauga, Huntsville, Augusta, Savannah, Tampa, Jacksonville and other places.

In handling this traffic not a serious railroad accident has occurred on the Southern.

Secured the Florida Central.

Announcement is made that the syndicate owning the Seaboard Air Line and the Georgia & Alabama Railroad has secured control of the Florida Central & Peninsular, which extends from Columbia, S. C., to Jacksonville, Fla., 274 miles. It has branches to Fernandina, Tallahassee and other points, and reaches the Georgia & Alabama at Savannah, Ga. The Seaboard Air Line now reaches Columbia by a traffic arrangement with the Columbia, Newberry & Laurens, but by building fifty miles of new line from Chester to Columbia would have a more direct route.

Railroad Notes.

G. W. Becker has been appointed assistant general freight agent of the Illinois Central, with offices at St. Louis.

The report of the Northern Central Railway Co. for the month of January shows increase in gross earnings amounting to \$52,300.

A freight train made up of sixteen sections was recently sent over the Southern Railway between Asheville, N. C., and Nashville, Tenn. In all it comprised 300 cars.

At the annual meeting of the Northern Central Railroad Mr. Frank Thomson, president of the Pennsylvania Railroad Co., was re-elected president, with the present board of directors.

A dispatch from Augusta, Ga., is to the effect that the Georgia Railroad Co. has prepared plans for a new depot in that city. They will be submitted to the Georgia railroad commission for approval before the work is commenced.

At the annual meeting of the Pecos & Northern Texas Railway Co., J. J. Hagerman was elected president; D. H. Nichols, vice-president, and W. B. Fuqua, secretary and treasurer. This road is an extension of the Pecos Valley Railway.

The Richmond Locomotive Works has recently received a large order from the Swedish government for twenty locomotives for passenger and freight service. It has also received an additional order from the Wabash Railroad for eight engines.

The current number of Watts' Official Railway Guide, published at Atlanta, is one of the most complete numbers of this valuable publication. It contains 208 pages and a handsome, up-to-date railway map of the Southern States, making it an attractive issue.

A dispatch from Monterey, Mexico, is to the effect that one of the largest union depots in America is to be built in that city, which will cost \$1,000,000. It is to be constructed by the various railroad companies entering the city, and plans are now being prepared.

The Pennsylvania Railroad has recently given an order to the Baldwin Locomotive Works at Philadelphia for twenty-five freight engines, as the Pennsylvania shops at Altoona are so filled with work that it is impossible to turn out rolling stock fast enough to fill the demands of the company.

A dispatch from Richmond, Va., is to the effect that options secured on the property for terminals of the Richmond, Petersburg & Carolina Railroad have been taken up. It is understood that about \$160,000 worth of real estate has thus far been secured. It will be utilized for tracks and other terminals.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

They Want Cotton Mills.

During the past week the Manufacturers' Record has received letters from two States in the South illustrating the increasing interest in cotton industry there. Mr. E. C. Dickinson, of Rusk, Texas, writes that capitalists who will guarantee to build a cotton mill within one year will be given the material for buildings and twenty acres for the site of the mill absolutely, and also a half interest in 200 acres of land crossed by two standard-gauge railroads where there is an abundant water supply. The land is situated within a mile of the limits of the county-seat.

Mr. L. D. Snook, of Calhoun, Ga., writes that the people of that town will subscribe for at least \$20,000 worth of stock for the erection and equipment of a \$100,000 plant there. He writes that white labor is plentiful and cheap and that wood and fuel can be obtained at \$1 a cord delivered.

Activity at Cedartown, Ga.

The reported proposed addition of 9000 spindles to the mill of the Cedartown (Ga.) Cotton Manufacturing Co., mentioned last week, was correct, but it is likely that the improvement will be temporarily deferred. This postponement will be because of the fact that the company has purchased the Paragon Mills, a plant of 5000 spindles, with sufficient space for 12,500 spindles, and this difference of 7500 spindles is expected to be added in the near future. When the Paragon Mills is running its full complement as noted, then attention will be given to adding the 9000 spindles above noted. This latter action would give the mill 20,000 spindles.

New Mill of 7000 Spindles.

The directors of the Cannon Manufacturing Co., of Concord, N. C., have decided regarding the additional mill which the stockholders authorized, as referred to last week.

Mr. J. W. Cannon, treasurer, writes that the company expects to build the new factory during the coming spring and summer, and that its capacity will be for 7000 spindles and 300 looms, with cross-compound condensing-engine plant and boiler of 600 horse-power. The company's present mill is one of 1700 spindles and 500 looms.

To Have 25,000 Spindles, 750 Looms.

It has been announced that the Trion Manufacturing Co., of Trion Factory, Ga., where it already has a 26,640-spindle and 758-loom plant, will erect an entirely new mill of large size.

The company will increase its capital stock from \$225,000 to \$600,000 to provide the funds for this improvement, and contemplates installing in the new building 25,000 spindles and 750 looms. Authority to increase further to \$750,000 was also obtained.

To Have 12,000 Spindles.

A site has been selected for the proposed cotton-flannel mill to be built at

Greensboro, N. C., as stated in our last week's issue. It has been ascertained that the equipment to be installed will be 12,000 spindles and 300 looms.

Among those interested in this company, which is to have a capital stock of \$600,000, are E. and H. Sternberger, of Clio, S. C.; M. H. Cone, of Greensboro, and Messrs. Strauss and Frank, of Baltimore, Md.

The Cotton Movement.

In his report for February 24, Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 177 days of the present season was 9,260,680 bales. This is a decrease of 184,151 bales over the same period last season. The takings by Northern spinners, 1,756,839 bales, is 5,549 less than last season, but the exports, 5,743,548 bales, are 444,136 bales more than last season, and the takings by Southern spinners, 742,930 bales, is an increase of 13,081 bales.

\$30,000 for Improvements.

The Whitney (S. C.) Manufacturing Co. informs the Manufacturers' Record that its new increase of capital stock is intended to supply funds for improvements and for other purposes. Capital has been increased \$84,000, and about \$30,000 of this amount will be used in purchasing new machinery and for general improvements. In a short time the company will place 2032 additional spindles, etc.

Columbia's Cotton Warehouses.

The Manufacturers' Record is informed that the cotton-warehouse business at Columbia, S. C., has been very remunerative to the stockholders and satisfactory in every particular. It is stated that one with a capacity of 12,000, 600 bales to a compartment, costing about \$31,000.

An 8000-Spindle, 350-Loom Addition.

The Proximity Manufacturing Co., of Greensboro, N. C., has decided to erect another mill. An additional building will be erected to the present mill to make the room to accommodate this new machinery, which will give the mill a total of 15,500 spindles and 850 looms.

Textile Notes.

Messrs. Leuby & Slenker, of Snowville, Va., have added about \$4000 worth of additional machinery to their woolen mill.

The Arkwright Mills, of Spartanburg, S. C., does contemplate enlarging, as has been reported, but no definite plans have yet been decided upon.

The new Martinsburg (W. Va.) Woolen & Cassimere Co. has awarded contract to S. A. Westenhaver for the erection of the building for its proposed mill recently mentioned.

The Paragon Mills, of Cedartown, Ga., has sold its plant to the Cedartown Mill Co., and now contemplates erecting another plant somewhere in Georgia, probably at Cartersville, Marietta or Dalton.

The Chattanooga Cotton Factory, of Chattanooga, Tenn., will build a cotton-yarn factory, and is now soliciting information and prices on complete equipment, including 200-horse-power engine, boilers, etc.

The Hazlehurst Cotton Mills, of Mt. Airy, N. C., will be overhauled and improved by Messrs. Gant & Erwin, who lately purchased them. Probably a new warp mill and thirty bag looms will also be installed.

Mr. Frederick Schoff, of Philadelphia,

Pa., has purchased from James McNaughton, of New York, his interest in the Bedford Woolen Mills at Bedford City, Va. Mr. Schoff will be treasurer of the company.

The transactions of the New England Cotton Manufacturers' Association at its semi-annual meeting last September in the White mountains have been published under the careful editorship of Secretary C. J. H. Woodbury.

The new Sherman Cotton Mills Co., of Sherman, Texas, has elected officers as follows: President, W. C. Howard; vice-president, T. A. Andrews; secretary-treasurer, J. T. Howard, and H. W. Fairbanks, superintendent.

Mr. H. C. Daggert, engineer for the Merrimack Manufacturing Co., of Lowell, Mass., is now in Huntsville, Ala., to inspect probable sites in Madison county and make surveys of same for the proposed 25,000-spindle cotton factory.

Subscriptions to the proposed cotton-mill company at Shreveport, La., have reached the total of \$60,000, which leaves but \$40,000 more to be secured. Messrs. Leon I. Kahn and John W. Taber are submitting the subscription books to probable investors.

It is stated that Mr. C. J. Maguire, of Birmingham, Ala., recently made manager of the Coleman Manufacturing Co., of Concord, N. C., has been sent North to buy the machinery for the mill. This is the mill that is owned principally by colored men and is to be operated by colored labor.

The business men of South Boston, Va., are endeavoring to secure the erection of a cotton factory in their city. Those interested include R. S. Barbour, J. M. Carrington and Jos. Stebbins, Jr. A part of the project is also to develop a water-power for supplying the proposed cotton mill and other industries.

Rumors current at Spartanburg, S. C., refer to a new cotton factory to be built at or near the city in which over half a million dollars will be invested. It is said that the plant will be equipped to produce finer goods than have heretofore been produced in the South. The establishment of a large bleachery is also talked of.

Mr. L. M. Park has purchased the Troup Factory, at Lagrange, Ga., and will continue its operation under the name of the Park Mills. The mill has heretofore been operated by water-power, but, owing to a shortness of water sometimes experienced, the new owner intends to install a steam-power equipment. Estimates on this new power plant are invited.

The Granby Cotton Mills, of Columbia, S. C., awarded contract to John Milady for the proposed new addition to its plant recently reported. The new structure will be seventy-five feet square, four stories high, and work on it is now being pushed. Some of the new spindles have commenced to arrive and are being put in position. The new spindles will number 37,000, thus giving the company a total of nearly 60,000 spindles and 1500 looms.

Oil in Kentucky.

Mr. R. H. Courtney, in a lengthy paper before the Louisville Board of Trade, argued that there was plenty of oil in Kentucky. He advocated efforts on the part of Louisville business men to develop the oil fields. Major T. B. Hoover, of Louisville, is quoted as stating that in Barren county, Kentucky, where 100 wells have been drilled, the oil is lubricating, while in other parts of the State it is refining. He believes that the State needs capital for the development of the fields.

MECHANICAL.

Compressed-Air Pumping.

The problem of pneumatic pumping successfully and economically under all conditions, and from all sources, has been of difficult solution.

The taking of water from deep wells by the air-lift system is now in common practice. Where the conditions are favorable it has superseded all other methods.

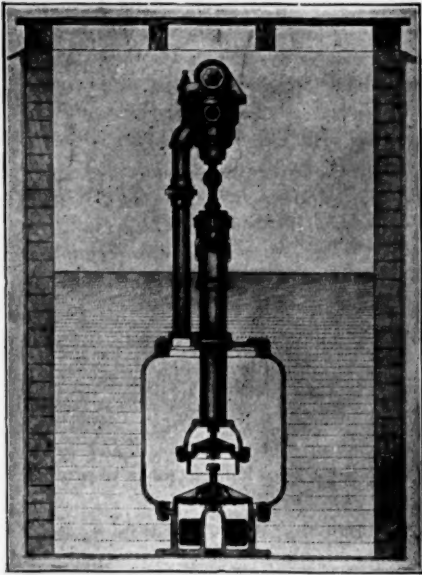


FIG. 1.

The application of air pressure directly upon liquids contained in submerged receptacles of suitable design as a method of air pumping is old and well known to pneumatic engineers as the "Displacement System."

By its use existing economical sources of power may be utilized for the production of the required air pressure, which can be transmitted regardless of distance with economy and safety, and, unlike steam, it can be handled by the inexperienced. The low cost of installation,

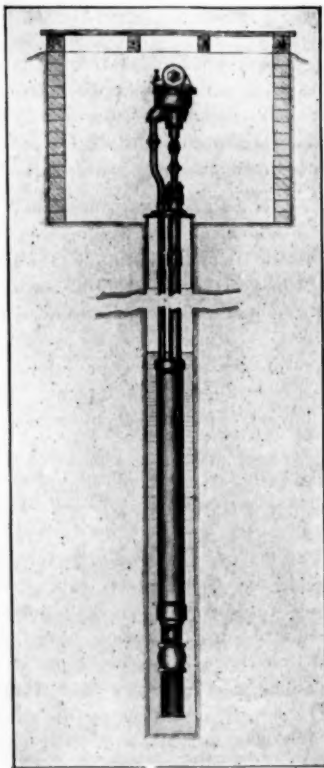


FIG. 2.

when compared with that of an isolated pumping plant of the usual type, and the remarkable low cost of maintenance, renders the system desirable and applicable to many cases.

This type of pneumatic pump, manufactured by the Merrill Pneumatic Pump Co., and shown by the accompanying illustrations, embodies recent improvements upon the construction formerly brought out by Mr. F. H. Merrill. Earlier patterns consisted of one or more iron cham-

bers adapted to be submerged in the liquid pumped, having liquid ingress and egress openings closed by suitable valves, and an air valve for controlling the supply and release of air pressure to and from the submerged chamber.

The air valve was placed within the chamber, or directly on top, below the water, or outside the chambers above the water-level.

In all cases the movement of the air valve was controlled by floats within the

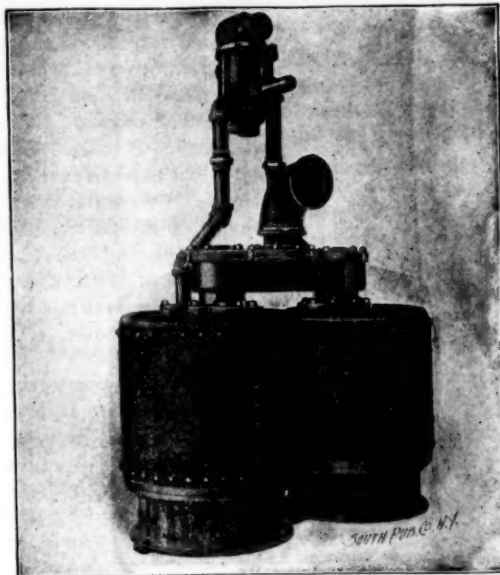


FIG. 3.

water chamber, arranged to actuate the air valve directly, or connected with supplemental valves, which governed the main valve.

The mechanical difficulties with these early constructions and the objections thereto are chiefly as follows:

First—The limited available actuating power of all kinds of floats suitable to be contained within the water chamber, rendering the pump inoperative if the air valves become clogged and fail to work.

Second—The very great tendency of closed floats to collapse or fill with water under high pressure. With the open-end floats the excessive loss of air required to displace the water which enters the mouth of them until the air entrapped

the water-level, thereby avoiding the difficulties mentioned.

Fig. 1 is a sectional view through the chamber of a single-acting type of the improved pump, showing the water admission and discharge valves, and the absence of all other moving parts below the water-level.

The automatic air valve, which is the subject-matter of U. S. Patent No. 609,943, August 30, 1898, consists of a main air valve, controlled by an auxiliary

valve, both of which are driven by differentiated pistons on which the air pressure is applied.

By this means the valve motion is prevented from hanging up in a central position.

The movement of the air valve is predetermined and adjusted to the maximum filling capacity of the water chamber, which is proportioned so as to exceed the discharge capacity, thereby insuring complete filling of the chamber.

Pliable cup packings, held out by brass tension rings, are used on the piston valves to prevent leaking. These cup packings working in composition cylinder linings, are subject only to the action of compressed air, from which sufficient lu-

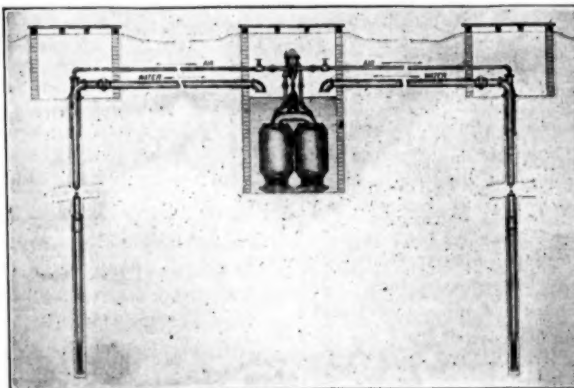


FIG. 4.

therein corresponds to the external working pressure.

Third—The possible disarrangement of the floats, or the air valve mechanism, from the rapid influx or efflux of water. The injurious elements, sand, mud or sediment, and the chemical action of the water which causes them to leak and stick.

Fourth—The inaccessibility of working parts, requiring removal of the entire pump to make repairs of however slight a nature.

The improvements embodied in the new type of displacement pumps consist mainly of the entire elimination of floats, the removal of all valve actuating mechanism from the water chambers, and the placing of a self-contained air valve above

the water-level, thereby avoiding the difficulties mentioned.

In practice it has been found that these cup packings are exceedingly durable, wearing for several years and remaining pressure-tight; being accessible, they are easily and cheaply renewed if necessary.

The automatic air valve may be placed just above the water-level, or any distance away from the water chambers, as shown by bored well displacement type (Fig. 2).

It is preferable, however, to place the air valve near the water-level to avoid the loss of air required to fill the connecting air pipes above. When the water chamber is nominally submerged the velocity of influx will carry the water in the air pipe some distance above the

water-level, and to a still greater height by an increased submergence, and usually it is sufficient to reduce the clearance loss very materially.

The water chambers are now made in various forms and sizes, as required to conform to the existing conditions of source from which water is to be taken.

For moderate service up to fifty gallons per minute the single-acting type is adapted; for heavier service the duplex type (Fig. 3) is constructed; Fig. 4 represents a "combination plant" pumping from one or more bored wells by modified types of the well-known "Pohle Air Lift," discharging therefrom into a receiving well at the surface, from hence by a "Duplex Displacement Pump" to any desired place of delivery above the surface.

With this combination water may be effectively delivered at distant elevated points by a single air-compressing plant, from bored wells having a submergence only sufficient for the economical operation of the "air lift" in discharging at the surface.

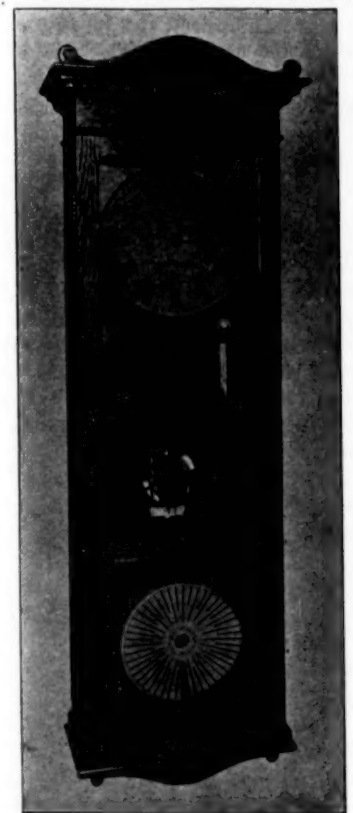
The pumps are simple in their construction, and guaranteed by the maker to work as represented and give satisfaction; they are sold to be operated by any make of air compressor, and can be erected by any plumber or mechanic.

For taking water from several sources, with a single-power plant, or from a distant point by the use of any existing power, regardless of distance, this pump is particularly adapted.

The Merrill Pneumatic Pump Co., 141 Broadway, New York, will forward descriptive circular and furnish all desired information upon request; also quote price upon receipt of full particulars regarding conditions.

Watchman's Clock.

The Pneumatic Watchman Check Co., of Columbus, Ohio, claims the distinction of producing a watchman's clock that, besides being absolutely simple and reliable in its works, is economical in first cost and requires no outlay for maintenance.



WATCHMAN'S CLOCK.

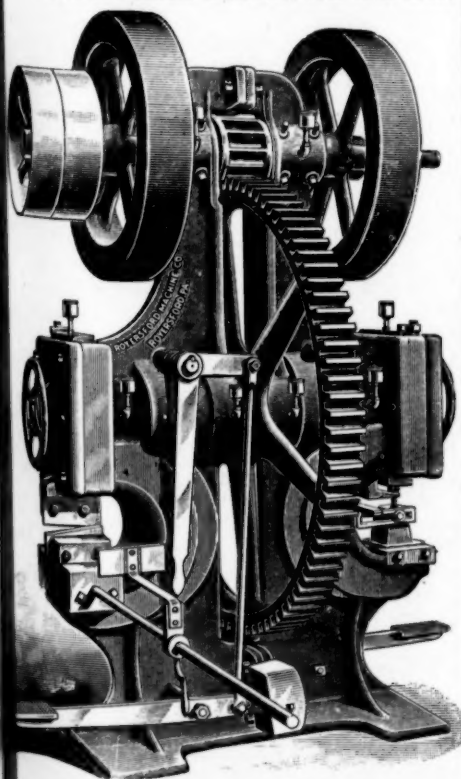
The device is operated by air, and consists of a recorder, which is placed in the office or other convenient location and connected by small air tubes, about the size of a wire, to any desired number of stations in different parts of the building or works. Each station has a separate connecting tube and an air chamber so

constructed that upon the insertion of the key pressure is communicated to the needle in the recorder, and the dial, which turns with the hour post of the clock movement, is punctured and an infallible record is made on the watchman's movements. Each station having connection with a separate diaphragm and needle, and each needle marking between different dividing lines on the dial, there can be no mistake of manipulation.

The whole machine is indeed simple, accurate and reliable. The check is made in a number of sizes, from one up to fifty stations, and it is in satisfactory use in all parts of the country. This machine is duly approved by insurance companies and boards of underwriters throughout the country, and in many instances premiums are reduced by its use. As a feature of protection and valuable safeguard to property, it is one of the most valuable acquisitions that can be placed in a manufacturing plant. The company also manufactures a time register which is a small and reliable automatic timekeeper for use in factories, shops, stores and offices or any business where a number of people are employed. It records accurately the time of arrival and departure of employees. The company issues a descriptive catalogue of its specialties, which may be obtained upon application.

Combined Punch and Shearing Machine

This is a very complete and desirable machine for general jobbing and machine shops, blacksmiths and fence-makers. It is built from the very latest designs, provided with clutches to operate with both lever and treadle, and can be run both together or separate, as the shaft is in two parts. All the parts are made of the best material. Shaft is made of hammered steel, five inches diameter; provided with brass bearings and Magnolia metal boxes. Main gear wheel is four feet two inches diameter, four-inch face;



COMBINED PUNCH AND SHEARING MACHINE.

small gear is six inches diameter, fly-wheels twenty-eight inches diameter, rim 7x4 inches square; weight, 575 pounds each. Fast and loose pulleys sixteen inches diameter, four-inch face. Driving shaft two and seven-sixteenths inches diameter, steel. Machine is provided with three-sixteenths, one-quarter, three-eighths, seven-sixteenths, one-half and five-eighths inch punches and dies. Throat of machine is twelve inches deep and nine inches high; will shear 6x3/4-inch

flat iron and 1 1/4-inch round; will punch five-eighths-inch hole through three-quarter-inch iron. This machine can be made to cut eight or ten inches wide if desired. Countershaft should make 165 revolutions per minute. Weight, 5250 pounds. Price on application to the maker, the Royersford Foundry & Machine Co., of Royersford, Pa.

Mr. John E. Searles' Trip.

The trip through the South which is now being made by Mr. John E. Searles, president of the American Cotton Co., to study carefully every phase of cotton handling between the cotton-grower and the mill, is attracting much attention. The fact that Mr. Searles, who is everywhere recognized as one of the greatest leaders of the day in the development of great enterprises, has decided to concentrate his energy and capital in Southern upbuilding, with especial reference to cotton matters, has naturally brought into very prominent discussion the merits of the round bale, which is being introduced by Mr. Searles' company.

After four or five years of experimental work and two years of active operations on a commercial basis, it has been demonstrated that this system effects a saving of from \$3 to \$5 a bale in the cost of compressing, insurance and handling of cotton. The heavy expenses thus eliminated, which in the aggregate amount to \$40,000,000 to \$50,000,000 a year, now fall altogether upon the farmer. Thousands of people are now living upon the farmer and depriving him of the full earnings of his labors. The present methods of sampling cotton, recompressing and handling are wasteful, and in this day of close margins, almost ruinous to cotton-planters. This burden which the farmer bears can be lessened, and every round bale put up is one step in the direction of relief. Of the \$3 to \$5 a bale saved, a very large part necessarily goes to the farmer, and it has been estimated that a general introduction of round-bale methods would add at least \$10,000,000 to \$20,000,000 to the net profits of cotton-growers.

During the present season over 200,000 bales have been handled, and Mr. Searles states that he could sell 100,000 bales more to European buyers on a day's notice if he had the cotton on hand. Arrangements have been perfected for putting up from 800,000 to 1,000,000 round bales during the next crop season, and now that Mr. Searles is concentrating all of his energies upon this undertaking, its pre-eminent success as one of the greatest business enterprises of this generation may be accepted as assured.

In Texas, Indian Territory and Mississippi, where most of these round-bale plants have thus far been established, a personal investigation shows that the people generally are becoming fully aroused to the importance of this system. Of course, the old compress owners and others who, under the old system, have lived upon the farmer, are fighting this innovation, but it has come to stay, and the Southern Farm Magazine congratulates the cotton-planters of the South upon the success of this revolutionizing system, which will necessarily add to their profits in cotton cultivation.—Southern Farm Magazine.

The catalogue of the Baron de Hirsch Agricultural and Industrial School at Woodbine, N.J., presents a clear-cut view of the objects of the school, a condensed sketch of its history since 1893, and illustrations of the excellent results already attained.

In and near Mobile, Ala., are thirty-one lumber mills, with an annual output of 300,000,000 feet, of which about two-thirds are exported, it is estimated.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

The Market for Cottonseed Products.

New York, N. Y., March 1.

The cotton-oil market is firm, but quiet, no appreciable change occurring during the past week. Prime crude is higher at home, and all grades are a shade higher abroad, with a promise of further advances. The strong position in crude is due to free purchases by local and other Western packers and refiners, thus very materially reducing the supply available from the present crop as outlined in our last. The demand for crude is actually in excess of offerings. Refined, however, is slow, with exporters not interested apparently at the moment. With regard to refined the market is, of course, firmer, but the demand, while good, has not been sufficient to advance the market to a parity with crude. Again, there is considerable oil on spot that is available at a shade above last week's quotations. On the whole, the market is believed to favor the position of holders more decidedly than at any time before this season. Soap stocks have been affected by the decline in lard, led by greases and tallow, which has lost 1/4c. this week. But cotton oil still holds up on the refusal of producers to sell. Hog and beef fats have declined since our last, which circumstance, with regard to tallow especially, was somewhat unexpected. July lard is quoted at 5.57 1/2 cents, while tallow, New York city make, is now quoted at 4 1/4 cents. The situation with regard to cotton oil, as previously stated, is decidedly favorable to holders from all standpoints. With regard to export trade, ocean freights are 4s. 6d. to Mediterranean points and 4s. 9d. to the Adriatic. Concerning Austria-Hungary imports, it is estimated the yearly shipments from this country of cotton oil amount to about 60,000 barrels, the greater portion of which is prime summer yellow. Shipments to ports in the latter countries have been much below the average recently, and a revival is expected at an early date. Off grades of refined oil are finding an outlet at 1 to 3 cents below the price for prime at this market and the South. Marseilles reports 100,000 stock, which is ridiculed here and reference made to a similar report last July, when that city was almost out of stock, and there is not that storage capacity in Marseilles, it is said. The English markets are nearer ours, however, as the Egyptian crop is estimated 90,000 barrels short. Liverpool refined oil has advanced to 16s. The following are closing prices at this market: Crude, 21 cents; crude, loose f. o. b. mills, 19 to 21 cents; crude, loose, 15 to 17 cents; summer yellow, prime, 25 to 26 cents; summer, choice, 27 to 28 cents; summer, off grades, 24 to 24 1/2 cents; yellow, butter grades, 30 to 33 cents; white, 31 to 32 cents; winter yellow, 31 to 32 cents, and salad oil, 33 to 34 cents.

Cake and Meal.—The latter is quoted for strictly prime, \$22.10 at New York rate points per short ton; ordinary, \$19, and \$22.50 Boston. Cake and meal stocks in London, England, are exhausted. Prime new American is quoted in Liverpool at £6 3/4, the advance indicating the scarcity.

Cottonseed-Oil Notes.

R. D. Berry, assistant general freight agent of the Houston & Texas Central Railroad, is superintending the shipment of 6000 pounds of cottonseed from Dallas, Texas, to Manila, Philippine Islands. The

seed is to be used for planting lands for the cultivation of cotton in those islands.

The Munger Manufacturing Co. is having plans prepared for a 60-ton cottonseed-oil mill at Mexia, Texas. It is said that work will begin in the near future and that the mill will be ready for the next crushing season.

The Planters' Oil Mill, at Monroe, La., was destroyed by fire on the 26th ult. The loss is estimated at \$150,000. It is stated that there was fully \$70,000 worth of the product in the building burned. The loss on machinery and buildings covers the remainder. The amount of insurance could not be obtained.

The market for cottonseed products in Texas continues firm, with a decided appreciation in values. The foreign export demand is quite active for oilcake and meal. Latest quotations are reported as follows: Prime crude oil, 20 cents; prime refined summer yellow, 22 1/2 to 23 cents; cottonseed meal, \$13.50 to \$15; cottonseed cake, \$13 to \$15; linters, A, 2 1/4 to 2 1/2 cents, all f. o. b. at mill at interior points in the State.

The following steamers cleared last week from Galveston, Texas, for Continental ports with cottonseed products among their cargoes: Steamer Britannia for Copenhagen with 418 barrels of cottonseed oil and 2358 sacks of cottonseed cake; steamer Willow Branch for Rotterdam with 2000 barrels of cottonseed oil and 20,160 sacks of cottonseed meal; steamer Consols for Bremen with 19,990 sacks of cottonseed meal, and steamer Lingfield for Hamburg with 2036 sacks of cottonseed meal.

At New Orleans the market for cottonseed oil is very steady, with values tending higher. There is a fair demand for cake and meal from Continental ports. Receipts from the valley are fair. Receivers' prices are reported as follows: Cottonseed, \$5 per ton of 2000 pounds delivered on river bank from New Orleans to Memphis for good, sound seed; cottonseed meal, jobbing per carload at depot, \$17.50 per short ton of 2000 pounds; for export per long ton of 2240 pounds, f. o. b., \$19 to \$19.25, new crop; oilcake for export, \$19.25 to \$19.50, new crop, per long ton f. o. b.; crude cottonseed oil at wholesale or for shipment, strictly prime oil, crude 15 to 16 cents per gallon, loose, f. o. b. tanks here; in barrels 16 to 17 cents; cottonseed hulls, delivered per 100 pounds, according to location of mill, 10 to 12 1/2 cents; linters, according to style and staple—A, 2 3/4 cents; B, 2 1/2 cents; C, 2 1/2 cents; ashes, none; refined cottonseed oil, strictly prime in barrels, per gallon at wholesale or for shipment, 21 to 23 cents for export; off refined cottonseed oil, 20 to 21 cents for steamer.

Savannah's Trade Prospects.

A recent visitor to New York was Leopold Adler, a prominent merchant of Savannah, Ga. In an interview relative to the trade outlook in that city Mr. Adler is quoted in the New York Commercial as follows:

"My sales last year were much larger than they have been in previous years, and the outlook for 1899 is very encouraging. I find that I am not only selling more goods, but a higher grade as well.

"As Savannah is the nearest port to Cuba in our State the idea is to interest all the residents to increase the harbor facilities and railroad connections, so that all the outgoing and incoming vessels will land there. The Board of Trade is sending out letters to all prominent citizens and urging them to lend their assistance, and if its plans are carried out it will certainly be a very good thing for our city in every way."

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,
Baltimore, Md., March 2.

The movement in the various channels of the local lumber trade has been confined within narrow limits during the past week, and the demand has been only moderate. In hardwoods trade is generally fair, with a good demand from nearby towns. Stocks are light and values firm for all desirable material. There is a good foreign export trade reported, and shippers are generally busy. In North Carolina pine leading operators report an active demand for kiln-dried lumber, with prices firm and hardening. The demand for air-dried lumber is light at the moment, but stocks at points of production are generally light, and prices are very steady. The demand for white pine is fair, with values firm and stocks about ample for present wants.

Charleston.

[From our own Correspondent.]

Charleston, S. C., February 27.

The tone of the local market has ruled quiet for lumber and other wood products, but the demand is steady, and under more settled weather considerable business would be done. At adjacent points there is some activity, and orders are coming in freely at all the mills. Shipments from Georgetown are better, and mills at that point are all running at their full capacity. Prices for desirable lumber are steady, and on Saturday last the market closed as follows: Merchantable lumber, \$14 to \$16 for city-sawed, \$12 to \$14 for railroad; square and sound, \$9 to \$13 for railroad, \$8 to \$11 for raft; dock timber, \$4.50 to \$6.50; shipping, \$8.50 to \$10.50. There is a fair demand for shingles at \$4 to \$7 per thousand, with stocks ample for the present inquiry. During the week the Clyde steamers cleared for New York with 78,600 feet of lumber and other cargo, and the barkentine E. S. Powell for New York with 418,000 feet of lumber. The total shipments of lumber from September 1, 1898, to February 24 amounted to 13,078,120 feet, of which 12,582,620 feet were coastwise and 495,500 feet foreign.

Savannah.

[From our own Correspondent.]

Savannah, Ga., February 27.

The past week has developed no material improvement in the general lumber market, but there is a steady demand for all desirable material, with prices generally firm. The reports from interior towns throughout the State are very encouraging, and the industry at nearby seaport towns is also quite active, with shipments growing larger each month. The market on Saturday last closed very steady, with prices unchanged: Minimum yard sizes, \$9.50; car sills, \$10; difficult sizes, \$11 to \$12; ship stock, \$15 to \$16.50; sawn crossties, \$8.25, and hewn crossties, 29 cents per tie. During the past week the shipments amounted to 1,365,000 feet of lumber to domestic ports. Among the foreign shipments reported were the steamer Axminster for Liverpool with 81,268 feet of lumber among her cargo, and the Italian bark Zefiro for Vigo, Spain, with 380,308 feet of pitch-pine lumber and 45,960 feet of oak. Freights on lumber and other wood products are steady. The last business reported was 15½ cents for crossties from Brunswick to Philadelphia, and \$5.25 for lumber from Brunswick to New York.

Mobile.

[From our own Correspondent.]

Mobile, Ala., February 27.

The week under review has been an active one in the lumber and timber market of this port, and it is stated that the outlook at present is very encouraging for the industry generally. In lumber especially the volume of trade during the past week has been larger than for some months past. The demand for lumber seems more general than usual, a good inquiry coming from various domestic and foreign markets. From the United Kingdom and Continent, as well as from South and Central America, Mexico, South Africa and Cuba, there is a good demand, the business of the past week with these countries amounting to 4,250,000 feet of lumber. The total shipments of lumber for the season amounts to 31,275,391 feet, against 25,920,427 feet last year. There is considerable activity at all milling sections, both in this section and at adjacent points in Mississippi and Florida. In timber the situation is more satisfactory, and advices from Europe give shippers more encouragement, as prices are firmer, with a better demand. Hewn timber at this port is quoted at 12 to 13 cents per cubic foot, and hewn poplar at 12 cents per cubic foot. Cypress logs are in good demand at 7 to 10 cents per cubic foot, according to the average. There is a limited demand for sawn timber at 11 to 11½ cents per cubic foot, 40-foot basis. The demand is limited for round ash, oak, poplar, cottonwood and gum. Pine saw logs are in good demand at \$5 to \$7 per 1000 feet. Among the shipments of timber during the week was the ship Macedon, which cleared for Davenport, England, with 83,062 cubic feet of sawn timber. Lumber and timber freights continue about steady, with a moderate offering of tonnage. Among the charters reported last week were the following: Italian bark Grazia, 763 tons, from Pensacola to Rio Janeiro with lumber at \$16, \$2 form; schooner A. B. Snare, 241 tons, from Pensacola to Ponce, Porto Rico, with lumber at \$6.25 and port charges, and schooner A. L. Lockwood, 266 tons, from Pensacola to Havana with lumber at \$5.25.

Lumber Notes.

The large lumber mills at Valley View, Ky., resumed work on the 20th ult. They will be run during the spring and summer months at their full capacity.

The Delta Box Co., of Vicksburg, Miss., was incorporated last week with a capital stock of \$20,000. The incorporators are F. Streight, George A. Payne and W. S. Jones.

The Sunflower Land & Manufacturing Co., of Greenville, Miss., has sold to Lucas E. Moore & Co., of New Orleans, 8600 acres of timber land near Moorhead. W. A. Everman is secretary and manager of the company.

A charter was granted last week to the Tidewater Lumber Co., of Norfolk, Va., of which M. P. Duval is president, and G. H. Richmond, secretary. The concern will have its principal office in Norfolk, and will do a general lumber business.

Mr. Uriah Blackshear, one of the leading lumber manufacturers of the South, died at his home on Government street, Mobile, Ala., on the 19th ult., in the fifty-first year of his age. The remains were taken to Brewton, Ala., for interment.

The Pineola Lumber & Trading Co., of Pineola, Mitchell county, North Carolina, was incorporated last week. The company proposes doing a general lumber business. The capital stock is \$100,000. The incorporators are F. W. McKenzie,

D. C. Catlin, Everett B. Camp and Mark T. Leonard.

On the 24th ult. one of the big sheds at the Orange Lumber Co.'s planer at Orange, Texas, was destroyed by fire. The shed contained over 800,000 feet of lumber awaiting shipment. The loss is estimated at \$8000 on lumber and \$2500 on sheds.

It is stated that a syndicate of New England and Canadian capitalists has been formed, with a capital of \$5,000,000, to purchase the valuable timber lands of Harlan county, Kentucky, along the Powell river in Virginia and other sections in East Tennessee and Northwestern North Carolina.

The Keystone Mill Co., of Conroe, Montgomery county, Texas, was chartered on the 18th inst., with a capital stock of \$30,000. The company will buy and sell timber lands and manufacture and sell all kinds of lumber and other wood products. The incorporators are T. H. Garrett, W. Starr and J. F. Floyd.

A New York company, controlling a large lumber business, desires to make more favorable arrangements on yellow pine, white pine, chestnut, cedar and oak, such as car sills, bridge timber, piling, crossties, etc., for steam and electric railroad use. Address "Lumber," care of Manufacturers' Record, for further particulars.

The mammoth storage rooms of the Georgia Fruit Packing Co. at Fort Valley, Ga., were completed last week. The company is now going more extensively into the manufacture of crates and baskets, and has all facilities for supplying the demand of Georgia fruit-growers. Mr. W. S. Tatum has been president of the company since 1895.

It is stated that the city of Memphis has offered the Florence Wagon Works twenty-five acres of land as a site and about \$5000 worth of other real estate to locate the wagon works in that city. The offer is being considered, and an agent of the company is now investigating. It is said that the probabilities are that the plant will go to Memphis.

The Kapp-Miller Co., of Rural Hall, N. C., was chartered last week with a capital stock of \$6000. The Union Furniture Co., of Durham, N. C., was also chartered with a capital stock of \$20,000. The incorporators of the latter company are Julian S. Carr, W. J. Christian, Chas. E. Christian and J. M. Gorman, of Durham, and Ruffin Roles and Zebulon Roles, of Raleigh.

The Waycross Barrel Factory at Waycross, Ga., will probably be started up again soon by the owners of the plant. The company will manufacture syrup barrels and turpentine barrels. The following are the officers and directors of the company: H. Murphy, president; Warren Lott, vice-president; A. M. Knight, secretary and treasurer; C. C. Grace, J. L. Sweat and H. W. Reed.

Mr. J. A. Ward, an extensive turpentine and naval-store operator of Bladen, Ga., closed a deal last week with R. R. Sizer & Co., extensive lumber exporters of New York and Brunswick, Ga., whereby the latter become the purchasers of 10,000 acres of timber land near Bladen, at the junction of the Florida Central & Peninsular Railroad and Plant system. The timber will be cut at Bailey's Mill, on the Satilla river.

The quarterly meeting of the North Carolina Pine Association was held at Norfolk on the 23d ult. The meeting was presided over by Capt. John L. Roper, president of the Roper Lumber Co. The conference was private, but it was stated that the question of prices was discussed at length. It was also stated that stocks

of lumber at all the mills were light, and there is little unsold lumber at any of the yards. Although prices only slightly advanced, it is likely that a general advance throughout the list will be declared in the near future.

A New York company has purchased all of the slab wood from the Cummer Lumber Co.'s mill at Norfolk and is negotiating with the Cummer Company with a view of establishing a large plant on its premises near the saw mills to manufacture this wood into kindling and matches. If the terms offered meet the approval of the Cummer Company a dry-kiln 50x100 feet and 80 feet high will be erected at once on the peninsula on the east side of the Cummer plant. The same company will also erect another plant of the same kind at Money Point. The greater portion of the machinery has arrived.

The establishment known as the Basic City School Desk & Furniture Manufacturing Co., of Basic City, Va., has been recently purchased by another syndicate. A new charter has been applied for and it will be operated under the name of the Basic City Furniture Co., manufacturing bedroom suits exclusively. The capital stock will be limited to a minimum of \$25,000 and a maximum of \$50,000. The officers of the company are C. W. Worth, of Wilmington, N. C., president; J. R. Kemper, of Saunton, Va., vice-president; James M. Walker, of High Point, N. C., superintendent. The plant will be started up in about thirty days.

The latest report from Richmond in connection with railway projects in that city is to the effect that an elaborate union depot may be built by the Chesapeake & Ohio and the Richmond, Petersburg & Carolina, with the necessary terminal tracks, etc. It is believed that such a plan would be of much advantage to both from an economical standpoint, as it would avoid the expense of an extra set of elevated tracks, which must be constructed in order to reach the central portion of the city.

The Manual of Receipts. Compiled by Sidney P. Johnston. Published by the American Artisan Press, Chicago.

This is one of the exceedingly useful manuals published by the American Artisan, and it is compiled from the files of the American Artisan and other sources. It forms a valuable collection of formulae and processes for artisans, giving the composition of various alloys, amalgams, solder, bronzes, varnishes, cements, etc., and data for the preservation and decoration of various metallic articles.

It is estimated that, in 1898, 1,352,950 tons of pig iron were shipped from the furnaces of Alabama and Tennessee, an increase of 233,277 tons over 1897.

TRADE NOTES.

Copper Mines For Sale.—Well-known copper mines in Cleburne county, Alabama, will be offered at public auction on March 24. For further information address or see adv. of H. L. Stevenson, Jacksonville, Ala.

Furnace at Auction.—The furnace property and mineral lands of the Rome (Ga.) Iron Co. will be offered at public sale on March 27 for benefit of the bondholders. See adv. of Geo. H. Webb, trustee, of Chattanooga.

Installing Ball Engines.—One of the most popular engines made in this country, especially for electrical connection, is the "Ball" engine, made by the Ball Engine Co., of Erie, Pa. Late orders were for a tandem compound condensing engine, direct connected to two 50-kilowatt General Electric generators at the United States naval station, Bremerton, Wash.; engines for direct connection to two 65-kilowatt generators in Toledo, and an engine for direct connection to Armour elevator plant of 30-kilowatt generator at Chicago.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD

seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with every one interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted." In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in any town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and even then they must expect the return of some letters, because of the lack of knowledge on the part of postmasters of all new companies. Criticisms and complaints are invited, as they will the better enable us to guard against errors.

ALABAMA.

Birmingham—Flour Mill.—Contract has been closed with a Michigan firm for the erection of a 200-barrel flour mill in Birmingham. Names of interested parties will be announced later.

Bridgeport—Woodenware Factory.—The Bridgeport Woodenware Co. has been incorporated by Joe Dietzen, George Selman, N. Dietzen, R. H. Williams and George D. Lancaster. This company is a reorganization of the Bridgeport Woodenware Manufacturing Co., and it is understood that the new company will make extensive improvements to its plant, introducing the manufacture of strawberry crates, etc.

Eden—Flour Mill.—E. G. Alverson will erect a 250-barrel capacity roller flour mill.

Ensley City—Saw Mill, Planing Mill, etc. Local capitalists will erect a saw mill, planing mill and veneering factory. Names of interested parties will be announced later.

Fruitthurst—Alcohol Distillery.—The Fruitthurst Vineyard Product Co. has purchased a still and will use same for the manufacture of alcohol.

Gadsden—Turnpike Roads.—Etowah county will hold an election on July 3 to vote on the issuance of \$100,000 of bonds for the purpose of macadamizing turnpike roads. Address "The County Clerk."

Hillman—Iron, etc., Mines.—The Tennessee Coal, Iron & Railroad Co., Birmingham, Ala., has purchased the property of the Smith Mining Co., and will operate the latter's ore mine properties in Hillman, Fossil, Alice, Muscoda and Ishkooda as a separate division of the former company under the superintendency of Thomas Worthington, with Joseph B. Simpson as treasurer. The monthly output of these mines is about 90,000 tons, and they will continue to be operated.

Selma—Cotton-oil Mill.—The Central Cotton Oil Co., recently reported as to begin the immediate erection of a \$100,000 cotton-oil mill, will let contracts for same early in March, and is ready for prices on a 120-ton mill. Address Ernest Lamar, manager.*

ARKANSAS.

Eldorado—Dry Goods Company.—Chartered: The Eldorado Dry Goods Co., with a capital stock of \$10,000, by C. P. McHenry, W. P. Bryant and H. W. Miles.

England—Farming Company.—The Clear Lake Farming Co. has been incorporated, with a capital stock of \$50,000, by N. B. Beakley, J. E. Hicks and W. J. Locke.

Little Rock—Machinery Company.—The Thomas Cox Machinery Co. has been incorporated, with Thomas Cox, president; Bentley Cox, vice-president, and Chas. C. Conlee, secretary-treasurer; capital stock \$25,000.

Marianna—Electric-light Plant and Water Works.—The board of water works improvement will install a water-works system at a cost of about \$16,000. Plans are being prepared and estimates will be made on an electric-light plant to be operated in connection with same. Owen Ford, No. 710 Security Building, St. Louis, Mo., is the consulting engineer.

FLORIDA.

Gainesville—Canal, Dam, etc.—Capt. H. Wade, of Lochloosa, is making arrangements for the development of 200 acres of land in Gainesville; he will have the proper ditches dug and arrange for a large canal, dam and locks.

Hartshorn—Phosphate Plant.—McIver & McKay, of Ocala, have made extensive repairs on a phosphate plant at Hartshorn which will be put in operation by Ford & Hillyer.

Hernando—Phosphate Plant.—McIver & McKay, of Ocala, have received contract to erect a large phosphate plant at Hernando for Mr. C. Chisholm, of Charleston, S. C.

Manatee County—Fuller's-earth Development.—A Northern company has purchased lands in Manatee county containing fuller's earth for \$20,000, and will develop same on an extensive scale. Possibly L. B. Belk, of Manatee or Tampa, can give information.

Tampa—Cigar, etc., Factory.—P. San Martin & Co. have been incorporated, with Wilfred C. Clarkson, president; P. San Martin, vice-president and general manager, and Guy C. Clarkson, secretary-treasurer, for the manufacture of cigars, cigarettes, etc.; capital stock \$10,000.

Tampa—Mercantile Company.—The Triumph Mills has been incorporated, with a capital stock of \$10,000, by J. O. Wilson, James E. Crane and Caesar Requeline, for the purpose of dealing in coffees, teas, spices and other goods.

Tampa—Electric-light Plant.—The Consumers' Electric Light & Street Railroad Co., recently reported as to expend \$50,000 in improving its plant, writes to the Manufacturers' Record that it does not contemplate making any improvements to its plant; W. B. Chapin, general manager.

GEORGIA.

Athens—Street Improvements.—The city has voted the issuance of \$100,000 of bonds for street improvements. Address "The Mayor."

Atlanta—Power-house, etc.—The Atlanta Street Railway Co. will put in improved power-house machinery and make other improvements.

Atlanta—Granite Quarries, etc.—Charles H. Moore, of Montpelier, Vt.; George C. Preston and William C. Preston, of Kingston, N. Y., and Hamilton McWhorter and Frank R. Smith, of Oglethorpe county, have incorporated the Southern Westerly Granite Co. for quarrying, sawing, finishing and selling granite; capital stock \$100,000.

Atlanta—Flour Company.—Chartered: The Globe Mills Co., to buy and sell flour, grain, etc., by G. T. Dodd, G. T. Dodd, Jr., and others, with an authorized capital of \$20,000.

Cedartown—Cotton Mill.—Regarding the \$250,000 cotton mill noted last week, we are informed that plans have been formulated for the erection of a 10,000-spindle mill to employ 350 hands. Arrangements are now in progress that look to the erection of this plant. For information address the Cedartown Company, Cedartown, Ga., or 119 South Fourth street, Philadelphia, Pa.

Cedartown—Cotton Mill.—The proposed addition of 9000 spindles by the Cedartown Cotton Manufacturing Co. (noted last week) will be deferred, because of the fact that the company will buy the Paragon Mills; this latter mill contains 5000 spindles and has room for 7500 more, which it is expected to put in very soon.

Columbus—Brewery.—The Dixie Brewery has been incorporated, with Emil Kersteln, of Richmond, Va., president; Oscar Alchel, secretary-treasurer and general manager, for the purpose of putting in operation the Chattahoochee Brewery; the capital stock is \$12,500.

Dalton—Cotton Mill.—The Paragon Mills, of Cedartown, Ga., is investigating with a view of establishing a cotton mill either in Dalton, Marietta or Cartersville.

Dewey—Cotton Ginnery.—Nearper & Newell contemplate the erection of a modern ginnery.*

Eatonon—Ginnery.—A. S. Reid, secretary Eatonon Electric Co., contemplates establishing a round-bale ginnery to be operated by electricity.*

Fitzgerald—Brick Works.—Local capitalists will organize a company for the purpose of erecting brick works. Names of interested parties will be announced later.

Lagrange—Cotton Mill.—L. M. Park has recently purchased the Troup Factory, and will operate same under the name of the Park Mills; equipment, 16,000 spindles and fifty-two looms.*

Macon—Pants Factory.—The Weekes Manufacturing Co. will double the capacity of its plant. Address Clarence Weekes, manager.

Trion Factory—Cotton Mill.—The Trion Manufacturing Co. will erect a new mill of 25,000 spindles and about 750 looms. The company has made application for an amendment to its charter allowing it to increase its capital stock from \$225,000 to \$600,000 and finally to \$750,000; equipment of present plant 26,640 spindles and 758 looms; Z. T. McKinney, superintendent.

Valdosta—Saw Mills, etc.—R. J. and B. F. Camp, of Florida, have purchased 60,000 acres of timber land for \$30,000 in Echols, Clinch, Ware and Baker counties and will develop same by the erection of saw mills and stills.

Valdosta—Buggy Factory.—J. W. Oberly, A. F. Oberly and C. T. Fox will organize the Valdosta Buggy Co. for the establishment of a buggy factory. O. K. Jones is erecting a building for the company.

KENTUCKY.

Ford—Kindling Manufactory.—J. P. Rucker is interested in the erection of a kindling manufactory.

Georgetown—Refrigerator Plant.—Thomas H. Bradley has introduced and will manufacture an iceless household refrigerator, and has contracted for their manufacture.

Grand Rivers—Iron Furnace.—The Columbian Land & Mining Co., of Boston, is arranging to blow in one of the charcoal furnaces at Grand Rivers, Ky.

Hanson—Coal Mine.—Efforts are being made for the organization of a stock company for the development of a coal mine. Names of interested parties will be announced later.

Letchfield—Electric-light Plant.—The city council has granted franchise to the Union Electric Light Co., Schenectady, N. Y., for furnishing electric lights for Letchfield.

Louisville—Roofing and Supply Company.—The National Roofing & Supply Co. has been incorporated, with a capital stock of \$5000, to conduct a general roofing and supply business, by J. B. Ohlgschlager, H. R. Snyder and J. H. Ingram.

Louisville—Clothing Factory.—Frank M. Gettys, H. S. Thomas and A. A. McKeldin have organized as Gettys, Thomas & Co., with a capital stock of \$50,000, and will establish a clothing factory to employ 150 operatives.

Louisville—Gas Plant.—The Kentucky Heating Co. has purchased site adjoining its works and will erect immediately a gas-holder to contain 800,000 cubic feet; also put in additional gas generators, blowers, boilers, pumps and other such apparatus which will more than double its present capacity. Address Donald McDonald, president.

Madisonville—Flour Mill.—Waller & Schoonover, of Morganfield, are reported as negotiating with J. H. Lunsford for the purchase of his new milling plant.

Maysville—Cannery.—J. N. Grant, superintendent, Wooster Preserving Co., Wooster, O., is investigating with a view of establishing a cannery at Maysville to employ 125 operatives.

Paducah—Telephone System.—A company has been incorporated at Metropolis and en-

tered into an agreement with the Paducah American Electric Telephone Co. for the purpose of laying a telephone cable across the river.

Richmond—Stock-yards Company.—The Madison County Stock Yards Co. has been incorporated, with a capital stock of \$9500, for the purpose of buying and dealing in live stock, by Joseph Embry, N. B. Deathridge and Sam A. Deathridge.

Somerset—Oil Refinery.—The Standard Oil Co. will, it is reported, erect a \$20,000 refinery at Somerset.

LOUISIANA.

Crowley—Rice Mill.—Joseph Flash, president of the Southwestern Louisiana Rice Milling Co., Limited, contemplates organizing a company to rebuild his burned rice mill.

Delcambre—Sugar Factory.—The Delcambre Planters' Sugar Co. has been incorporated, with D. Delcambre, president; A. D. Delcambre, vice-president, and directors, Chenoline Landry, Camille LeBlanc, L. Landry, Drosin Landry and Alfred Delcambre, for the erection of a co-operative sugar factory with a capacity of 300 to 350 tons of cane per day. Capital stock is \$50,000.

Eunice—Rice Mill.—I. Silverbery, representing the Opelousas Mercantile Co., of Opelousas, La., states that the company will erect a rice mill at Eunice.

New Orleans—Lamp-manufacturing Company.—The Royal Lamp Manufacturing Co., Limited, has been incorporated, with Geo. S. Britton, president; Raphael J. Folse, vice-president, and H. M. Ward, secretary-treasurer, for the manufacture of the celebrated "Bright Light;" capital stock \$50,000.

New Orleans—Tobacco Company.—The Louisiana Tobacco Co., Limited, has been incorporated, with Augustus Craft, president; John M. Bobb, vice-president, and Alexis C. Dumestre, secretary-treasurer, for the purpose of dealing in tobacco, cigars, cigarettes, etc.; capital stock \$50,000.

Opelousas—Cotton Mill.—Efforts are being made for the organization of a stock company for the erection of a cotton mill on the co-operative plant to cost in the neighborhood of \$75,000. Address Phil. L. Asher, who is interested in the enterprise.*

MARYLAND.

Baltimore—Iron Foundry.—A foundry building will be erected (near the new plant of the Structural Iron Co.) which will be of stone and steel, 150x80 feet, and cost \$6000. Names of parties to operate this foundry have not yet been mentioned.

Baltimore—Iron Foundry and Machine Shops.—The Structural Iron Co. will erect a shop 200x136 feet, to be constructed of stone, with steel girders; plant to contain engine-room, boiler-room, dynamo-room and blacksmith shop; electricity will be the power used exclusively in the shop, and a complete electrical plant will be installed. Main shop will cost \$20,000; power plant will cost \$5000; additional machinery will cost \$10,000; plant now has annual capacity of 5000 tons of finished products; the number of men employed and capacity will be greatly increased. Address Jules W. Leroux, general manager.

Baltimore—Bolt and Iron Works.—William D. Jameson, Frank Ehlen, Charles S. Rich, Dall Worthington, E. C. Lawrence, Harry D. Harvey and Maurice E. Skinner have incorporated the Baltimore Bolt and Iron Works with a capital stock of \$5000.

Baltimore—Electric Plant.—The plans for the consolidation of the electric-light companies of Baltimore contemplate the early erection of a central station of great capacity; preliminary plans have been completed and the station will be complete in every detail. All the power will be generated at the one station. Probably Nelson Perin can be addressed.

Baltimore—Telephone System.—The Home Telephone Co. contemplates the extension of its system and expects to have 5000 telephones in use within the next year. For particulars address George R. Webb (Equitable Building), who formed the syndicate which recently purchased the Home Company.

Baltimore—Car Works.—A movement is on foot to combine the leading manufacturers of street cars of the United States, which plan proposes the establishment of large car works at some important city on the At-

lantic coast. F. L. Hart, general manager of the City Passenger Railway Co., talks of the advantages offered by Baltimore for such a plant.

Baltimore—Chemical Works.—Edward W. Steinmuller, Frederick H. Wagner, Jr., Albert Hilderbrandt, John J. Hurst and Judson Holmes Sencindiver have incorporated the Holmes Chemical Co., with a capital stock of \$25,000, to manufacture pharmaceutical preparations.

Baltimore—Telegraph-machine Works.—Prof. Ira Remsen, Bernard N. Baker, Eugene Levering, Francis H. Hambleton, Columbus O'Donnell Lee, John Pleasants, C. L. Reeder and others contemplate the organization of a stock company to promote the development and manufacture of the multiplex printing telegraph machine invented by Prof. Henry A. Rowland, of the Johns Hopkins University.

Baltimore—Cigar Factory.—The Fulton Cigar Manufacturing Co. has been incorporated by Chris Rosenbrook, Frederick A. Wineke, Edward B. Smith, Albert Strauss and Thos. R. Hanna, with a capital stock of \$10,000, for the manufacture of cigars, etc.

Baltimore—Bed and Bedding Factory.—Allen E. Pickett, William Sachse and Ambrose S. Boll have incorporated the National Manufacturing Co., with a capital stock of \$5,000, for the manufacture of beds and bedding.

Baltimore—Lumber Company.—Chartered: The McNeill Lumber Co., by Edward C. Carrington, Jr., Campbell Carrington, Thos. P. McCullough, Eugene S. Newbold and Charles Matt, with a capital stock of \$10,000.

Centerville—Canning Factory.—J. Langrall & Bro., of Baltimore, will erect a canning factory at Centerville, as lately reported, of capacity 50,000 or 60,000 cans per day.

Centerville—Canning Factory.—Langrall Bros., of Baltimore, will establish a cannery at Centerville.

Centerville—Cannery.—Dolby & Turner will establish a cannery.

Cumberland—Rolling Mill.—F. S. B. and J. E. Wood, of Sharon, Pa., are investigating with a view of leasing the Cumberland Rolling Mill.

Hagerstown—Machine Shops.—The Norfolk & Western Railroad Co. has no idea of erecting shops at Hagerstown, as was recently reported; J. M. Barr, general manager, Roanoke, Va.

Hester—Dye Plant.—The Thistle Mills Co. has let contract to Jacob Kern, of Howard county, for the rebuilding on a larger scale of its dye plant recently burned; loss on burned plant \$15,000.

Washington, D. C.—Vehicle Factory.—The Washington Automobile Co. has been incorporated, with H. D. Merrick, president, for the purpose of manufacturing and selling automobile vehicles; capital stock \$50,000.

Washington, D. C.—Electric Company.—The National Electric Co. has been incorporated, with H. D. Merrick, president and a capital stock of \$25,000, for the manufacture and sale of electrical supplies of all kinds.

MISSISSIPPI.

Batesville—Canning Factory.—Leland L. Pearson will submit a proposition for the purchase and operation of the Batesville Canning Factory.

Berclair (not a postoffice).—Chartered: The Berclair Gin Co., by J. T. Foy, J. C. Purnell, A. C. Robinson and A. Robinson, with a capital stock of \$8,000.

Brooklyn—Turpentine, etc., Plant.—The George S. Leatherbury, Jr., Co. has been incorporated by George S. Leatherbury, Jr., Charles R. Hall and J. P. Smith, with a capital stock of \$50,000, for the manufacture of turpentine and rosin.

Decatur—Telephone Company.—E. B. Parlin, F. N. McMullan, F. O. Horne, L. B. Day and J. W. Gillespy have incorporated the People's Telephone Co., with a capital stock of \$5,000, to operate telephone lines.

Greenville—Light, Heat and Power Plant.—The People's Light Co. has been incorporated, with an authorized capital of \$25,000, to furnish light, heat and power; incorporators, Harley Metcalf, Fred Metcalf, L. C. Gwin and others.

Greenwood—Hardwood Company.—The Thayer Hardwood Co. has been incorporated, with a capital stock of \$20,000, by Ben L. Jones, Joe L. Wilson, Frank J. Fraser, Rowan Thayer and others.

Madison Station—Mercantile Company.—The Madison Mercantile Co. has been incorporated, with a capital stock of \$25,000, by N. V. Boddie, R. L. Atkinson, J. T. Dameron, R. C. Lee and E. J. Lee.

Moorhead—Timber Lands.—The Sunflower

Land & Manufacturing Co., of Greenville, Miss., has sold to Lucas E. Moore & Co., of New Orleans, La., 8600 acres of timber lands near Moorhead. W. A. Everman is secretary and manager of the company.

Natchez—Light, Power and Transit Company.—Chartered: The Natchez Light, Power & Transit Co., to furnish light, power and heat, by Maurice Moses, Abram Moses and others, with an authorized capital of \$250,000.

Oxford—Electric-light Plant.—Chancellor Fulton, Col. J. W. Faulkner and Hon. R. H. Thompson have been appointed a committee to investigate the advisability of establishing an electric-light plant for the Oxford University.

Starkville—Publishing.—Chartered: The Southern Farm Gazette Co., with a capital stock of \$1400, by W. B. Montgomery, W. C. Welborn, W. L. Hutchinson and T. L. Hogan.

Terry.—Chartered: The Hester & Simpson Co., by Eugene Simpson, A. D. Hester, D. A. Winson and H. Griser, with a capital stock of \$20,000.

Vicksburg.—Chartered: The Vicksburg & Sunflower River Co., with an authorized capital of \$10,000.

Vicksburg—Box Factory.—The Delta Box Co. has been incorporated, with a capital stock of \$20,000, for the manufacture of wooden boxes and other articles of wood, by F. Speight, George A. Payne and W. S. Jones.

Yazoo City—Carriage and Harness Company.—The Yazoo Carriage & Harness Co. has been chartered, with an authorized capital of \$10,000, to conduct a general carriage and harness business.

MISSOURI.

Cartersville—Mining Company.—Chartered: The Gate City Mining Co., by George B. Rand, of Keokuk; George W. Strickler and W. G. Moore, of Centerville, Iowa, for the development of the forty acres of land recently reported as having been purchased by these incorporators.

Central City—Lead and Zinc Mines.—Ex-Governor W. C. Renfrow, of Oklahoma, has purchased the Missouri Central zinc mines and a mining lease on forty acres of land at Central City for \$50,000. The property was purchased for a syndicate, of which Governor Renfrow is at the head.

Clinton—Flour Mill.—Marcus Bernheimer and J. H. Kracke, of St. Louis, have purchased the Tebo Mills property at Clinton and will put in modern machinery and make it a 700-barrel mill and increase elevator capacity to 60,000 bushels of grain.

Galena—Mining Plant.—The Holo Mining Co. has been organized, with Hugh L. McIndoe, president and general manager. The company has let contract to Ben L. Stevens, of Joplin, Mo., for a 100-ton mill; two boilers to furnish power, one of 100 horse-power and one of forty horse-power, will be put in and the mill will be provided with all the modern improvements.

Joplin—Lead and Zinc Mines.—F. C. Playter, of Pittsburg, Kans., has leased sixty-one acres of mining lands near Joplin for \$7700 for a Washington city syndicate.

Kansas City—Live-stock Company.—Chartered: The Timmons-Witherspoon Live Stock Co., with a capital stock of \$60,000, by T. F. Timmons, Frank Witherspoon, Jay F. Donohue and others.

Lumberton—Water Works.—The city voted the issuance of \$4000 of bonds for the completion of its water-works plant, as lately reported, and contracts have been let; K. Proctor, Jr., mayor.

Maryville—Dry Goods Company.—Chartered: The Alderman Dry Goods Co., with a capital stock of \$16,000, by C. J. Alderman, J. Kirk McDearman and Conrad W. Wehle.

Neosho—Zinc Company.—The Newton Zinc Co. has been incorporated, with a capital stock of \$25,000, by C. B. Farwell, E. M. Phelps, Abner Taylor and Allan L. McCoy.

Neosho—Mercantile Company.—Chartered: The Rathell-Harrison Mercantile Co., with a capital stock of \$15,000, by Sam T. Rathell, J. E. Rathell and S. G. Harrison.

Oronogo—Mining Company.—The Oronogo Mining Co. has been incorporated, with a capital stock of \$300,000, by J. McD. Trimble, C. A. Braley, R. H. Stewart, B. N. Simpson and J. M. Mason, of Kansas City.

Sedalia—Woolen Mill.—Cain & Hutchinson are making extensive improvements to their one-set woolen mill, adding new machinery, etc. Address W. F. Grimsley, superintendent.

St. Louis—Axle Company.—Chartered: The St. Louis Axle Co., with a capital stock of \$10,000, by James S. Minary, Charles A. Cloud and Joe S. Minary.

St. Louis—Coal Company.—The Carter Coal & Railway Co. has been incorporated, with an authorized capital of \$250,000, by L. H. Lohmeyer, Richard Quiverton, N. C. Robbins and A. L. Shoulitz, of St. Louis, and T. C. Stuart, of Winchester, Ky., for the purpose of conducting a mining and manufacturing business.

St. Louis—Mining Company.—R. E. Rombauer, E. H. Benoit, Thomas Wright, D. D. Bascom and others have incorporated the Northumberland Mining Co., with a capital stock of \$15,000.

St. Louis—Feed and Coal Company.—Chartered: The Central Feed & Coal Co., with a capital stock of \$3000, by P. M. Staed, P. J. Staed and W. J. O'Malley.

St. Louis—Cold-storage Buildings.—The Mound City Ice & Coal Co. has let contract to C. Kellerman for the erection of two cold-storage buildings 73x140 feet and 60x140 feet; cost \$22,000.

St. Louis—Roofing Company.—The Asphalt Roofing Co. has been incorporated by R. J. Redick, G. V. Riddle and William Stimmer, with a capital stock of \$5000.

Warrensburg—Wheel Factory.—Prussing & Rittman will establish a plant for the manufacture of Mang Prussing's new patent wheel; plant will have a capacity of 400 wheels per day, and will be located in the Rittman Building, on Pine street.

NORTH CAROLINA.

Blowing Rock—Pipe Factory.—Arrangements have been made for the establishment of a smoking pipe factory. Names of interested parties will be announced later.

Charlotte—Gas Plant.—The Charlotte Gas Light Co. will enlarge its plant, and plans have been drawn and materials ordered for the purpose; S. E. Linton, manager.

Concord—Laundry.—The Concord Steam Laundry has put in additional machinery to double its capacity.

Concord—Cotton Mill.—The Cannon Manufacturing Co. will erect another mill (as recently reported), with a capacity of about 7000 spindles and 300 looms. Address J. W. Cannon, treasurer.*

Durham—Furniture Factory.—The Union Furniture Co. has been incorporated, with W. J. Christian, president; Col. Julian S. Carr, vice-president; Charles E. Christian, secretary-treasurer, and Ruffin Roles, manager; company has purchased the mill building, and will erect additional one, both to be equipped for the manufacture of all kinds of furniture, bank fixtures, bar fixtures and sash, doors and blinds; capital stock \$20,000.

Fayetteville—Electric-light Plant.—The House has passed the bill allowing Fayetteville to issue \$15,000 of bonds for the establishment of the electric-light plant lately noted. Address "The Mayor."

Fayetteville—Knitting Mill.—H. M. Pemberton has decided to add a finishing department to his knitting mill, necessitating the employment of additional labor.

Granville—Copper Mines.—H. Sellers McKee and associates, of Pittsburg, Pa., have purchased property in North Carolina, near Granville, from Judge A. W. Graham, of Oxford, and will develop copper mines.

Greensboro—Bakery.—B. Voltz will erect a bakery and oven.

Greensboro—Cotton Mill.—The proposed \$300,000 cotton-funnel mill, in which E. & H. Sternberger, of Clio, S. C., are interested, will have 12,000 spindles and 300 looms.

Greensboro—Cotton Mill.—The Proximity Manufacturing Co. will erect a new mill to have 8000 spindles and 350 looms; this enlargement will give a total equipment of 15,500 spindles and 850 looms. Address Caesar Cone, president.

Hope Mills—Planing Mill.—Moffitt Bros., of Sanford, and the Sanford Sash & Blind Co. anticipate erecting a planing mill at Hope Mills, and not a sash, door and blind factory, as lately reported.

Jonesville—Flour Mill.—T. C. Shores will erect a roller flour mill.

Mount Airy—Cotton Mill.—John Q. Gant and J. Harper Erwin, of Burlington, proprietors of the Hazlehurst Cotton Mills, will overhaul the mill, among the probable additions being a warp mill and thirty bag looms.

Mount Airy—Flour Mill.—A. E. Sides will erect a roller flour mill.

Mount Airy—Flour Mill.—Welch & Worth are establishing a roller flour mill.

Pineola—Lumber Company.—The Pineola Lumber & Trading Co. has been incorporated by F. W. McKenzie, D. C. Catlin, Everett B. Camp and Mark T. Leonard, for the purpose of conducting a general lumber business; capital stock is \$100,000.

Rural Hall—Furniture Company.—The Kapp-Miller Furniture Co. has been incorporated by E. T. Kapp, J. F. Miller, R. E. Branson and others, with a capital stock of \$6000.

Scotland Neck—Buggy Factory.—The Carolina Buggy Co., J. E. Woodland and W. A. Brantly, proprietors, will enlarge its buggy factory.

Statesville—Cotton Mill.—The Statesville Cotton Mills will put in additional machinery to work up its waste, consisting of two cards and 500 spindles, contract for which has been let; A. B. Saunders, superintendent.

Tarboro—Electric-light and Water Works.—The bill authorizing the issuance of \$50,000 of bonds (recently reported) for water-works and electric-light plant has passed the legislature; \$40,000 for water works and \$10,000 for electric-light plant. Address "The Mayor."

Troy—Saw Mill.—The North Carolina Building & Supply Co. has been formed, with W. J. Hicks, president; C. H. Beckwith, vice-president, and W. J. Ellington, treasurer and superintendent, and is now operating its saw-mill plant, which has been erected at a cost of \$25,000.

Ulah—Chair Factory.—T. J. Gallahorn will not remove his chair factory to Asheboro, as recently reported, but will enlarge at Ulah.*

SOUTH CAROLINA.

Charleston—Telephone System.—The Gordon Telephone Co. (Exchange Banking & Trust Co. Building) will hold a meeting on March 27 to consider the advisability of increasing its capital stock from \$50,000 to \$100,000; Reginald F. Fennell, general manager and treasurer.

Charleston—Improvement Company.—The Seashore Improvement Co. has been incorporated by Samuel H. Wilson, president; William H. Bird, vice-president, and J. S. Lawrence, secretary and treasurer, for the purpose of improving the Isle of Palms; capital stock \$100,000.

Charleston—Iron Works.—Chartered: The Riverside Iron Works, with a capital stock of \$2000, by G. H. W. Bruggeman and R. H. Lockwood.

Greenville—Cotton Mill.—The American Spinning Co. will put in new carding and other machinery; I. W. Wright, superintendent.

Fairforest—Oil Mill.—A \$15,000 company is being formed for the erection of an oil mill. Address Judge Norman.

Jonesville—Cotton Ginnery.—R. A. Whitlock & Co. will erect a round-bale ginnery (as lately reported), with fifty bales per day capacity.

McColl—Artesian Well.—The McColl Manufacturing Co. wants an artesian well bored and is open for bids.*

Spartanburg—Electric-power Plant.—A company has been organized for the establishment of an electric-light plant to furnish lights for the city and power to the manufacturing plants; it is reported that the Prairie shoals will be utilized as the power plant.

Spartanburg—Cottonseed-oil Mill.—J. N. Lipscomb has purchased site for his proposed cottonseed-oil mill, and will place orders for machinery at once.

Spartanburg—Cotton Mill.—The Arkwright Mills, writing in relation to the report that it will double plant, says that some extensions are very probable, but that no definite plans have yet been decided.

Sumter—Ice Company.—Chartered: The Electric Ice Co., with a capital stock of \$10,000, by R. M. Wallace, Chas. T. Mason and Anthony White.

Timmonsville—Tobacco Factory.—John McSweeney, Charles A. Smith and Jacob Berger are in conference with the American Tobacco Co., of New York, relative to locating a tobacco factory in Timmonsville.

Whitney—Cotton Mill.—The Whitney Manufacturing Co. has increased its capital stock \$84,000, and will put in 2032 spindles, etc., expending \$30,000, as lately reported.

TENNESSEE.

Bluff City—Flour Mill.—W. H. Smith has purchased flour mill, and will equip same with roller machinery.

Bristol—Bone Mill.—A. D. Reynolds will add the necessary machinery to his mill for the production of acid phosphate; will not manufacture the acid, but will mix the phosphate, and wants the necessary appliances for doing so.*

Chattanooga—Candy Factory.—Frank Moseley has established a candy factory.

Chattanooga—Bed-spring Factory.—The buildings and property formerly occupied

by the Hughes Lumber Co., including the planing mill, dry-kiln, storage-house, etc., have been leased by the M. A. Hunt Manufacturing Co., of Cincinnati, O., and William Lipp, of Chattanooga, and will be equipped with the necessary machinery for the manufacture of bed springs. Address Henry J. Grote, manager, 121 East Terrace street.

Chattanooga—Cotton Mill.—The Chattanooga Cotton Factory will erect a cotton-yarn mill.*

Circle—Canning Factory.—I. R. Darwin will establish a canning factory.*

Clarksville—Filter Plant.—A bill has been introduced in the legislature authorizing the issuance of \$20,000 of filter bonds. Address "The Mayor."

Cleveland—Woolen Mills.—The Cleveland Woolen Mills will increase its capacity by putting in additional machinery; is now placing a \$3000 engine to operate the large increase of machinery.

Greenville—Bridge.—The Southern Railway Co. will construct an iron bridge across Depot street. Address Frank S. Gannon, general manager, Washington, D. C.

Harriman—Tannery.—The Harriman Leather Co. (recently reported as incorporated) has let contract to Thomas & Turner for the erection of its building, which will cost \$7000.

Johnson City—Plating Works.—The Oriental Plating Works has been formed by E. S. Wolfe, Dr. J. A. Denton and F. P. Baxter, for the purpose of doing all kinds of silver, gold and nickel plating.

Knoxville—Mining and Milling Company.—The Tennessee Mining & Milling Co. has been incorporated, with an authorized capital of \$50,000, by B. F. Minnis, Chas. A. Weller, H. A. James and others, for the purpose of mining ores and minerals.

Knoxville—Power-house.—Knoxville Traction Co. will make improvements to its power-house and have all the material and equipment for that purpose. Address C. C. Howell, vice-president and general manager.*

Lebanon—Telephone Company.—Chartered: The Lebanon Telephone Co., with an authorized capital of \$5000, by J. B. Cowan, Wm. Odum, N. G. Robertson, D. Johnson and A. M. McClain.

Madisonville—Manganese Mines.—J. F. Brittain, of Maryville, is preparing for the development of manganese mines near Madisonville.

Memphis—Laundry.—George R. Morton, M. M. Miller, Emma B. Morton, R. G. Brown and A. H. Kottrecht have incorporated the City Laundry Co. with an authorized capital of \$10,000, to operate a steam laundry, already established; Geo. B. Morton, president.*

Memphis—Mercantile Company.—Ehrman-Kober-Halle Co. has been incorporated, with a capital stock of \$20,000, to conduct a general mercantile business, by E. Ehrman, M. Kober, P. H. Halle and others.

Memphis—Millinery Company.—The Persian Millinery Co. has been incorporated, with a capital stock of \$25,000, by J. Summerfield, B. Summerfield, Solomon Hesse, Harry Hesse and Samuel Hesse.

Memphis—Hoop Works.—Patterson & Busby, proprietors of the Patent Coil Elm Hoop Works, have removed their mills from Indianapolis, Ind., to Memphis.

Morristown—Turnpike.—H. L. Douglass, J. F. Goodson and C. O. Taylor have been appointed a committee to prepare a bill to be presented to the legislature authorizing the issuance of \$50,000 for the purpose of building a system of turnpike. Address B. F. Stubblefield, chairman.

Nashville—Street Paving.—The board of public works will submit a bill to the city council asking for the appropriation of \$20,000 to pave the public square with brick; if bill is passed the board will receive bids for five carloads of vitrified brick.

Nashville—Gas Plant.—Robert M. Snyder, Michale M. Sweetman, William L. Dudley, William A. Jones and Albert D. Marks have incorporated the Tennessee Gas Co., with a capital stock of \$1,000,000, for the purpose of installing and thoroughly equipping an up-to-date gas plant. Address R. M. Snyder, Maxwell House.

Rockwood—Iron Furnace.—The Roane Iron Co. will make extensive improvements at a cost of \$200,000; improvements include the erection of a second furnace at Rockwood and the extensive development of coal mines. The present furnace operated by this company has a capacity of 160 tons per day, and the output will be increased to double this amount. The capacity will be at least 300 tons. About 400 additional operatives will be employed; Capt. H. S. Chamberlain, president.

Smithville—Telephone Company.—The Smithville Telephone Co. has been incorporated, with a capital stock of \$1000, by R. L. Cautrell, T. J. Patten, W. W. Parker, W. B. Parker and others.

Sunbright—Lumber Mills.—The Pilot Mountain Lumber & Supply Co. will erect a new plant.

Union City—Hardware Company.—The Lawson & Sears Hardware Co. has been incorporated, with an authorized capital of \$7500, to conduct a general merchandise business, by A. J. Lawson, A. D. Sears, E. S. Tatom, T. J. Mott and R. H. Driskill.

Winfield—Coal Mines.—The Winfield Coal Co. is developing new mines and will increase its output.

TEXAS.

Bowie—Mill and Gin.—The Bowie Mill & Gin Co. has been incorporated, with a capital stock of \$20,000, by Z. T. Lowrie, Z. Brock and G. W. Walthall.

Dallas—Electrical and Construction Company.—Chartered: The Southwestern Electrical, Engineering & Construction Co., with a capital stock of \$20,000, by Sam P. Cochran, J. L. Sale and Frank Reeves.

Dallas—Gin Compress Company.—Chartered: The Texas Gin Compress Co. by J. H. Patterson, J. H. McDonald and Warren A. Patterson, with a capital stock of \$300,000.

Fort Worth—Cotton-oil Company.—The Fort Worth Cotton Oil Co. has been incorporated, with a capital stock of \$75,000, by H. L. Scales, R. K. Erwin and J. J. Culbertson.

Fort Worth—Cold-storage Plant.—Capitalists of St. Louis, Cincinnati, Louisville and Fort Worth have organized a company for the erection of a \$100,000 cold-storage plant. Names of interested parties will be announced later.

Galveston—Grain Elevator.—The Galveston Wharf Co. contemplates the erection of a 1,000,000-bushel grain elevator.

Harrisburg—Cotton Compress, Gin, Oil Mill and Bagging Factory.—The Channel Cotton Co., recently organized with J. J. Sikes, of Houston, manager, will erect a large gin, cotton compress, oil mill and bagging factory at Harrisburg.

Hillsboro—Mercantile Company.—Chartered: The Evans Mercantile Co., by C. Evans, J. M. Hartsfield and M. E. Evans.

Houston—Hotel Company.—The Guerlinger Hotel Co. has been incorporated, with a capital stock of \$10,000, by C. H. Guerlinger, T. W. Brasher and C. H. Frederick.

Houston—Electric-light Plant, Crematory and Sewerage System.—The plans of Alexander Potter, the sanitary engineer of New York, have been accepted for the proposed sewerage system, electric-light plant and garbage crematory. Address "The Mayor."

Mexia—Oil Mill.—The Munger Manufacturing Co. is having plans prepared for the erection of a 60-ton oil mill.

Midlothian—Grain Elevator.—The Midlothian Grain Co. will erect the grain elevator reported last week; capacity 75,000 bushels. Address W. W. Major, manager.*

Rusk—Iron Furnace.—E. T. Leche, of New Orleans, La., has leased the Star & Crescent Furnace at Rusk (as lately reported), with privilege of purchasing; furnace is sixty-five feet high, has bosh eleven feet in diameter and seventy-five tons capacity; fifty or sixty operatives will be employed, to blow in at once.

Sabine Pass—Grain Elevator.—James O. Osgood, manager Sabine Land & Improvement Co., writes that while there is some talk of a grain elevator being erected, as lately reported, no definite arrangements have been made concerning same.

Sherman—Water Works and Electric-light Plant.—The board of aldermen appropriated \$21,200 for the improvement of the water-works system and electric-light plant. Address "The Mayor."

Stephenville—Oil Mill.—Efforts will be made for the organization of a stock company for the erection of an oil mill. Dave Boaz, of Fort Worth, and John Guitler, Jr., of Abilene, are said to be interested in the enterprise.

Temple—Agricultural-implement Factory and Foundry.—W. C. Westerway, representing Lamb & Co., of Freeport, Ill., is investigating with a view of erecting an agricultural-implement factory and foundry in Temple to give employment to 200 operatives.

Texarkana—Lumber Company.—Gustav, Harry and Herman Munbesheimer have incorporated the Redwater Lumber Co., with a capital stock of \$50,000.

Van Alstyne—Grain Elevator.—Ed Beall

is rebuilding his grain elevator, recently burned.

Waco—Grocery Company.—Chartered: The Grider Grocery Co., with a capital stock of \$3000, by E. B. Grider, C. A. Smith and W. H. Grider, Jr.

Waco—Water Works.—The Waco Water Co. will make extensive improvements to the city water works, including the drilling of new wells, erection of new pumping station, etc., at a cost of \$30,000.

VIRGINIA.

Allisonia—Mining Plant, etc.—The Lawson Lead & Zinc Co., recently reported (under Wytheville) as incorporated, has organized for the purpose of mining and milling zinc sulphides and lead ores on its property at Allisonia, and proposes erecting a complete mining, concentrating and milling plant for this purpose, with a capacity of 100 tons of ore per day and employing 100 operatives. For particulars address R. L. Peirce, general manager, Wytheville, Va.

Basic City—Furniture Factory.—The Basic City Furniture Co. (reported last week as incorporated) has organized with C. W. Worth, of Wilmington, N. C., president; J. R. Kemper, vice-president; James M. Walker, of High Point, N. C., secretary and treasurer, and Edward C. Rueter, of High Point, superintendent. This company has purchased the plant of the Basic City School Desk & Furniture Co., and will put in machinery for the manufacture of bedroom furniture, which it will make exclusively. The plant will be in operation in thirty days, employing sixty operatives.*

Chase City—Flint Mill.—Efforts will be made for the establishment of a flint mill. Address Joseph R. Case for information.

Emporia—Water-power Development, Cotton Mill and Electric-light Plant.—W. Samuel Goodwyn states in reference to the development of the water-power of the Meherrin river, reported last week, that work will be commenced on same as soon as the weather permits; this survey will be made for the purpose of inducing the establishment of a cotton mill and electric-light plant.

Gainesboro—Coal Mines.—Mort. Harloe, of Peaksville, Pa., has secured options on several hundred acres of lands in and around Gainesboro for a Northern mining company that intends to develop same on an extensive scale.

Hanover—Flour Mill.—W. C. Newman & Bro. will erect a new 30-barrel roller flour mill. Contracts have been awarded.

Harrisonburg—Electric-light and Power Plant.—The Merchants' Light & Power Co., reported last week as incorporated, has selected John R. Green, president; H. L. Bushong, vice-president and general manager, and C. F. Thomasson, secretary. The company will erect an electric-light plant for about 2000 incandescent lamps; also contemplates adding in the future an arc-light machine and extending lines to nearby towns. Address the secretary.*

Leesburg—Flour Mill.—W. S. Jenkins & Co. have about let contract for rebuilding their burned mill, as recently reported; capacity from 100 to 125 barrels flour per day.

Lynchburg—Mercantile Company.—The Jackson Bros. Co. has been incorporated, with G. E. Caskie, president; J. Gordon Payne, vice-president, and D. C. Jackson, secretary-treasurer and general manager, to conduct a general mercantile business; capital stock to be not less than \$20,000 nor more than \$50,000.

Newport News—Piers.—The Old Dominion Land Co. contemplates, among other improvements, the construction of two new piers about 700 feet long.

Newport News—Shipbuilding Plant.—It is stated that the Newport News Shipbuilding & Dry Dock Co. will soon commence improvement to its plant that will aggregate a cost of \$2,000,000. Address C. B. Orcutt, president, No. 1 Broadway, New York.

Norfolk—Paint Company.—The Pyro Paint Co. has been incorporated, with Thomas Black, Berkley, president; James Iredell Jenkins, Norfolk, vice-president, and Ed. Reddick, of Norfolk, secretary; capital stock to be not more than \$5000.

Norfolk—Real Estate Company.—The Douglas Park Co. has been incorporated to conduct a general real estate business, with R. W. MacDonald, president; Vance Hebbard, vice-president, and Abbott Morris, secretary-treasurer; capital stock \$5000.

Norfolk—Match and Kindling-wood Factory.—A New York company is negotiating with the Cummer Company, of Norfolk, with a view of erecting a large plant near the saw mills of the Cummer Company to manufacture kindling wood and matches. If satisfactory arrangements can be made a

dry-kiln 50x100 feet and eighty feet high will be erected at once. The same company will erect another plant of the same kind at Money Point, the greater portion of the machinery having arrived.

Norfolk—Lumber Company.—Chartered: The Tidewater Lumber Co., with M. P. Duval, president, and G. H. Richmond, secretary, for the purpose of conducting a general lumber business; capital stock to be \$5000.

Norfolk—Broom Factory.—A broom factory has been established at No. 124 Main street, with E. R. Deford, general manager.

Norfolk—Ferries Company.—The Norfolk County Ferries Co. has been incorporated, with a capital stock of from \$20,000 to \$50,000, for the purpose of bidding for, and, if successful, leasing and operating the Portsmouth and Norfolk county ferries. Norfolk capitalists, together with Charles E. Fink, of Westminster, Md., are interested in the enterprise.

Orange—Telephone System.—The Orange Telephone Co., Col. George S. Shakerford, president, contemplates the extension of its line from Parker's Store to Fredericksburg.

Portsmouth—Machine Shops, Dry-docks, etc.—The Gill & Thomas Co. has been incorporated, with Franklin D. Gill, president and general manager; Cornelius Thomas, vice-president; Alexander D. Butt, secretary and treasurer; these, with G. F. Edwards, of Portsmouth; James G. Gill, of Norfolk, and Joseph B. Sanford, of Newark, N. J., compose the board of directors. The company has been formed to conduct a machine and repair shop, operate dry-docks, etc. The capital stock is \$50,000.

Richmond—Glass Works.—John S. Bordner, general manager of the Alexandria (Va.) Glass Works, will let contract for the erection of a building 160x75 feet in Richmond for the establishment of glass works, which when completed will give employment to about 100 operatives.

Richmond—Manufacturing Sites.—Ware B. Gay proposes the development of twenty-eight acres of land on Mayo's Island, which will have a water front of 3000 feet, for the purpose of inducing manufacturers to locate at this point. Mr. Gay is at present endeavoring to locate a large chemical plant employing hundreds of operatives.

Roanoke—Rail Mill.—The Norfolk & Western Railway Co. will install a rail mill, and will erect a building 40x60 feet to be equipped with a 50-horse-power engine, 36-inch diameter cold saw, together with drill presses, straightener and skidways and appliances for handling rails; total cost of the plant not to exceed \$8000; W. H. Lewis, superintendent motive power.

Snowville—Woolen Mills.—The Snowville Woolen Mills is putting in about \$4000 worth of new machinery; present equipment one set, six looms.

South Boston—Cotton Mill and Water-power Development.—A business men's association has been formed, with R. S. Barbour, president, for town-development purposes, included in which is the erection of a cotton mill, also the development of the water-power of Hico Falls, on Dan river; permission has been granted for the construction of a dam across the river.

Suffolk—Knitting Mill.—The Suffolk Knitting Mills will rebuild its plant, recently reported as burned; contract for machinery not let; plant will probably cost more than \$40,000.

WEST VIRGINIA.

Charleston—Medicine, etc., Factory.—The Dr. C. C. Moore Co. has been incorporated, with a capital stock of \$500,000, by C. C. Moore, Jr., L. M. Lawson, Jr., H. C. Faulkner, F. F. George and L. Murray Roe, of New York, for the purpose of manufacturing and selling drugs, chemicals, etc.

Charleston—Electric-power Plant.—The Morgan-Gardner Electric Co., No. 2634 Shields avenue, Chicago, reported during the week (under Kanawha City) as to construct a plant to furnish power to the several coal companies in and around Kanawha City, states in a letter to the Manufacturers' Record that the plant will be located about ten miles from Charleston on the Kanawha river; it will be a power-house having two engines, two dynamos, boilers, etc. Plant will be 50x90 feet in size, of brick or hollow tile, cement floor, light, ventilation, electric plant, etc. Address Robert Ryan, general manager.

Charleston—Coal Mines, etc.—The Victor Coal Co. has been incorporated, with Jack Carr, president, and J. A. Carr, secretary and treasurer. The company has purchased and will operate a coal plant, and will put in machinery for mining coal. Address the president.*

Fairmont—Fuel Company.—The Atlantic

Fuel Co. has been incorporated by C. T. Holbrook, M. W. Pharo, W. F. Jacoby, J. S. Stevens, Jr., and L. Rafetto, of Philadelphia, Pa., for the development of all kinds of fuel; capital authorized \$100,000.

Fairmont—Coal Mines.—The Brooks Coal Co. has been incorporated for the development of coal mines by John O. Brooks, of Moundsville; J. C. Gaskill, of Montana, and W. B. Brooks, George De Bolt and Lee L. Malone, of Fairmont; authorized capital \$90,000.

Fayette—Hotel Company.—Chartered: The Fayette Hotel Co., with a capital stock of \$10,000, by N. Daniels, Bery; George Brockland, Levi Schaffer, B. E. Bare and A. A. Brannen, of Sewell, W. Va.

Martinsburg—Coal Mines.—A. E. Fretts, of Westmoreland county, Pennsylvania, has leased 3500 acres of coal lands in Back Creek valley and Third Hill mountain and will develop same.

Sunnyside—Coal Company.—The Sunnyside Coal Co. has been incorporated to develop coal mines, manufacture coke, etc., by T. C. McVey, James Lomax, of Victor, and A. H. McVey, James Lomax, Jr., and E. J. Lomax, of Sunnyside, with an authorized capital of \$100,000.

Weston—Publishing.—Chartered: The Weston Democrat Publishing Co., with a capital stock of \$25,000, by R. H. Harrison, Arthur Chrisman, W. W. Brannon and others, for the publication of a newspaper.

BURNED.

Arcadia, Fla.—The mill and dryer of the Peace River Phosphate Co.'s works; estimated loss \$150,000.

Athens, Ga.—The dry-goods house of M. Meyers & Co.; estimated loss \$30,000.

Bunceton, Mo.—The Bunceton Roller Mills; estimated loss \$10,000.

Columbia, S. C.—The mixing establishment of the Globe Fertilizer Mill. The mill is owned by the Virginia-Carolina Chemical Co., of Richmond, Va., Dr. T. C. Robertson, manager; estimated loss \$125,000.

Forest, Miss.—The Scott county courthouse. Address county clerk.

Goldthwaite, Texas.—Ell Fairman's cotton gin near Goldthwaite.

Lewisburg, W. Va.—The Lewisburg flour mill and creamery.

Marksville, Va.—The mill, distillery and store of Frank M. Phillips, of Stanleytown; estimated loss \$2000.

Marlin, Texas.—R. A. Oak's grist mill and gin, near Marlin; estimated loss \$4000.

Monroe, La.—The Planters' Cottonseed Oil Mill; estimated loss \$100,000.

New Waverly, Texas.—Traylor Bros.' gin and grist mill; estimated loss \$2000.

Tifton, Ga.—Rigdon's gin and mill.

BUILDING NOTES.

Ashton, Md.—Dwelling.—T. C. Groomes, of Rockville, is preparing plans for an 11-room dwelling for Janney Sherbrooks, to have mantels, water closets, baths, steam heat and other improved details.

Atlanta, Ga.—Business Block.—S. M. Inman will erect a brick business block, to consist of a system of warehouses and stores.

Ablene, Texas.—Opera-house.—W. F. D. Battjer, manager of the Abilene Opera House, will make extensive improvements to the house.

Atlanta, Ga.—Apartment-house.—Dr. Hunter P. Cooper is having plans prepared by Godfrey Norrman for the erection of a three-story apartment-house with all modern conveniences.

Bakerville, Tenn.—Store Building.—Sullivan Bros. will rebuild their store building recently burned; building to be 40x60 feet.

Baltimore, Md.—Cottage.—Alfred Mason has prepared plans for a cottage (to be built at West Arlington by Louis Schneider) to cost \$5000, and will have steam heat, gas fixtures, closets, furnaces, etc.

Baltimore, Md.—Bank Building.—The Safe Deposit & Trust Co. has had plans prepared by Baldwin & Pennington for interior improvements to its building, consisting of the erection of new galleries to be constructed entirely of iron.

Baltimore, Md.—Warehouse.—The Northern Central Railway Co. will erect a large storage warehouse; when the building is completed it will be operated by the Terminal Warehouse Co. Address William H. Brown, chief engineer of company, who will prepare plans.

Baltimore, Md.—Office Building and Dwellings.—The Structural Iron Co. will erect a stone office building 80x31 feet to cost \$2000,

and a row of dwelling-houses. Address John Knox, manager building construction department.

Baltimore, Md.—Schoolhouse.—The Park Avenue Friends will erect a schoolhouse, three stories, 66x54 feet, and to cost \$20,000; plans are being prepared by Charles E. Cassell, and call for a building which will include gymnasium, manual-training department, chemical laboratory, observatory, steam heat, etc.

Beaumont, Texas.—Dwellings.—J. A. McFaddin will erect three one-story frame buildings to cost \$2004; Miss Kydie Coward, two one-story frame dwellings to cost \$2000.

Berkley Springs, W. Va.—Hotel.—A company, with a proposed capital of \$1,000,000, will be formed for the erection of the hotel and sanitarium previously reported. Jackson C. Gott, of Baltimore, has prepared plans which call for a building 310x150 feet to accommodate 400 guests and to cost \$250,000. Dr. C. W. Chancellor, No. 12 East Eager street, Baltimore, Md., can be addressed.

Birmingham, Ala.—Hospital.—Cook & Laurie, of Montgomery, Ala., have received contract at \$67,939 for the erection of the administration and northeast wing of the St. Vincent Hospital, to be built for the Sisters of Charity. The contract does not include the heating, ventilating and electric systems, elevators and other hospital details. For particulars address T. U. Walter & Ullman, Chalfoux Building.

Birmingham, Ala.—Hospital.—Hillman Hospital Association will receive sealed bids until April 15 for the erection of a hospital building to be three stories, of red press brick, with stone ornamentation, and to cost not over \$30,000. Address Mrs. T. H. Molton.

Carthage, Mo.—Business Block.—W. R. Logan will erect a brick business block.

Charlotte, N. C.—Business Block.—Mrs. E. C. Springs will erect a \$10,000 business block.

Columbia, S. C.—Hotel.—The Granby Cotton Mills will build an operatives' boarding-house two stories high, of brick, 38x150 feet, with all modern conveniences.

Concord, N. C.—Dwelling.—H. M. Barrow will erect a dwelling.

Crowley, La.—Residence.—Thomas Shaw, of Newman, Ill., will erect a residence in Crowley.

Douglas, Ga.—Courthouse.—Contract for the erection of the new courthouse has been let to T. C. Thompson & Bro., of Birmingham, Ala., at \$1900.

Douglas, Ga.—Business Building.—Dr. N. Peterson has let contract for the erection of a two-story brick building 38x39 feet.

Forest, Miss.—The Scott county courthouse, reported as burned, will in all probability be replaced by a modern brick structure. Address "County Clerk."

Fruithurst, Ala.—Residence.—N. O. Nelson will erect a residence.

Hopkinsville, Ky.—Warehouse.—R. E. Cooper has purchased site for \$3750 and will erect a large tobacco warehouse.

Jackson, Tenn.—Station.—The Mobile & Ohio, the Illinois Central and the Nashville, Chattanooga & St. Louis Railroads are preparing to erect a union depot at Jackson; Richard Carroll, general manager, Mobile & Ohio Railroad Co., Mobile, Ala.

Joplin, Mo.—Business Block.—C. M. DeGraff will erect a three-story brick and stone business block to contain elevator and all modern appliances.

Kansas City, Mo.—Apartment-house.—Castle Moss will erect a three-story brick and iron building to cost \$35,000.

Keyser, W. Va.—Jail.—Sealed bids will be received at the clerk's office of the County Court of Mineral county until April 6 for the erection of a new jail. Contractors may bid on entire work or on the building and steel-work separately. Plans and specifications can be seen at the clerk's office of the County Court. Bids must be accompanied by a certified check for \$500; usual rights reserved; J. V. Bell, clerk.

Knoxville, Tenn.—Cottages.—Fifty cottages will be erected in South Knoxville to be occupied by employees of the new Parham Woolen Mills. Address W. T. Parham, Maryville, Tenn.

Leesburg, Va.—Building.—Joseph L. Norris will erect a brick building; plans prepared by Lemuel Norris, of Washington, D. C.

Little Rock, Ark.—Business Building.—The Arkansas Furniture & Carpet Co. has increased its capital stock from \$42,000 to \$60,000, and will erect a three-story press-brick building to cost \$30,000.

Louisville, Ky.—Monastery.—D. X. Murphy & Bro. have made plans for the Fran-

ciscan Monastery, three stories, brick, 205x105 feet, and to cost \$30,000.

Louisville, Ky.—Courthouse.—Mason Maury has prepared plans for Bullitt county courthouse.

Louisville, Ky.—Hall.—Thomas & Bohne have prepared plans for an amusement hall for Central Kentucky Asylum.

Louisville, Ky.—Church.—The St. Boniface Church will erect a new structure to be of stone and brick, 96x178 feet, to have slate gable roof and to cost \$50,000. Address "The Pastor."

Louisville, Ky.—Engine-house.—The mayor has signed an ordinance authorizing the expenditure of \$4000 to reconstruct police station building; plans call for engine-house, hall, etc.

Louisville, Ky.—Dwelling.—L. Wright will erect a \$3000 dwelling; George A. Bush will erect three two-and-one-half-story frame dwellings to cost \$5000; W. R. Ray will erect two-story brick dwelling to cost \$3400; M. T. Pope will erect an ironclad shed at 111 West Chestnut street at a cost of \$6000.

Marietta, Ga.—Store Building.—Hayden & Wheeler, 503 Equitable Building, Atlanta, Ga., are preparing plans for a store building for Moultrie M. Sessions.

Marlboro, Md.—Dwelling.—T. C. Groomes, of Rockville, has completed plans for a 10-room dwelling for A. Marshall Marbury; frame, verandas, American plate-glass windows, furnaces, bathrooms, water closets, etc.; cost \$4000.

McMinnville, Tenn.—Warehouse.—C. M. Rose will erect a warehouse.

Middletown, Va.—Station.—The Baltimore & Ohio Railroad Co. has had plans prepared for the erection of a new station. Address John K. Cowen, receiver and president, Baltimore, Md.

Meridian, Miss.—Depot.—The Mobile & Ohio Railroad Co. has had plans prepared and will shortly let contract for the erection of a freight depot in Meridian; Richard Carroll, general manager, Mobile, Ala.

Mobile, Ala.—Theater and Office Building.—Thomas Scully, of New Orleans, will prepare plans for a new theater building to be erected by Jacob Pollock; the old Mobile Theater will be remodeled and made into a modern office building, with elevators, steam heat, mail chutes and all other modern conveniences.

Monroe, La.—School Building.—J. W. Gaddis, of Vincennes, Ind., has prepared plans and specifications for the new City Central High School building to cost between \$25,000 and \$30,000.

Morganton, N. C.—Bank Building.—The Burke County Bank will erect a bank building.

Newport News, Va.—Church.—The new church recently reported as to be erected by the St. Paul's Episcopal congregation will have a seating capacity for 500, and will cost \$18,000. As soon as plans are decided upon bids will be asked for the erection of the building. Address Rev. J. F. Ribble, pastor.

Ocean Springs, Miss.—Schoolhouse.—The city will issue \$10,000 of school bonds. Address "The Mayor."

Portersville, Ala.—Clubhouse.—W. H. Gentry, of Lexington, Ky., will organize a stock company to erect a clubhouse at Portersville.

Potomac, Md.—Dwelling.—T. C. Groomes, of Rockville, has completed plans for a dwelling for Mrs. Fannie S. Brantley, to have ten rooms, shingle roof, porches, hot and cold water, water closets, etc.

Quitman, Ga.—Residence.—Z. W. Oglesby will erect a \$5000 residence.

Richmond, Va.—Depot.—The Chesapeake & Ohio Railroad Co. and the Richmond, Petersburg & Carolina Railroad Co. are in conference with a view to combining and building a mammoth union station in Richmond. Address G. W. Stevens, general manager Chesapeake & Ohio, Richmond, Va.

Sedalia, Mo.—Building.—Peter Pehl will erect a two-story brick building, plans for which are being prepared.

Sherman, Texas.—Station.—The board of aldermen voted \$3000 for the erection of an additional fire station. Address "The Mayor."

Sistersville, W. Va.—Opera-house.—A three-story opera-house building, 72x105 feet and to cost \$25,000, will be erected; probably John J. Rea, who was recently reported as to erect an opera-house, can give information.

Social Circle, Ga.—Store Building.—Hayden & Wheeler, 503 Equitable Building, Atlanta, Ga., are preparing plans for a block of brick stores for Knox Bros. at Social Circle.

Spartanburg, S. C.—Church.—The First

Presbyterian congregation will erect a new structure, with seating capacity for 750, to cost \$15,000. Plans are being prepared. Address D. E. Converse.

Spartanburg, S. C.—Church.—The Presbyterian congregation will erect a new church to cost \$15,000. Address A. H. Twichell, chairman building committee.

St. Louis, Mo.—Telephone Station.—The Bell Telephone Co. will erect a one-story telephone station 28x39 feet to cost \$6000.

St. Louis, Mo.—Buildings.—A. A. Simson will erect three two-story flats, \$6800; Albert G. Blanke, two two-story dwellings, \$5000; Mound City Coal & Ice Co., three-story cold-storage, \$22,000; W. M. Blelock, three-story building, \$12,500; John R. Butler, two-story dwelling, \$6500; William J. Lemp Brewing Co., two-story beer depot, \$5000; R. W. Morrison, five-story store, \$15,000, and four-story warehouse, \$6000; Robert Fulford, two-story dwelling, \$6000; Hamilton-Brown Shoe Co., five-story shoe factory, \$70,000.

Tybee, Ga.—Hotel.—W. M. Bohan has contracted for the rebuilding of South End Hotel.

Valdosta, Ga.—Dwelling.—Col. J. Gordon Cranford will erect a residence.

Virginia—Residence.—Harvey Abrams, of Knoxville, Tenn., has secured contract for the erection of a \$24,850 stone residence for W. G. Newman, of Brooklyn, N. Y. The roof-metal trimmings will be of copper, roof of slate. A steam-heating and electric-lighting plant will be placed in the basement. Plate glass will be used throughout and bath fixtures to be of porcelain. George F. Barber & Co., of Knoxville, Tenn., prepared the plans.

Waco, Texas.—Auditorium.—A \$30,000 auditorium will be erected with seating capacity for 7500; plans have been prepared.

Washington, D. C.—Buildings.—George P. Newton will erect seven dwellings, two-story, 17x32 feet, to be of red press brick and Indiana limestone trimmings, cabinet mantels, furnace heat, tiled bathroom, plate-glass storm doors and Hummelstown brownstone porches and steps, and to cost \$14,000. Mr. Newton is also preparing plans for seven dwellings, to be three-story, 17x40 feet, buff press-brick front, Hummelstown brownstone trimmings, porches and steps, hardwood cabinet mantels, open fireplaces and gas logs, bathrooms and vestibules tiled, plate-glass storm doors, furnace heat, electric bells and gaslighting attachments; total cost \$20,000. Joseph C. Johnson & Co. are preparing plans for three dwellings, two-story, press-brick front, mansard roofs, tiled vestibules and baths, furnace heat, etc. Edward Nauck will erect a residence. C. Lutz will erect a two-story dwelling. William Freeman will erect a two-story press-brick dwelling. John Cook has plans for the erection of an apartment-house, three-story, 20x32 feet, with back building 40x60 feet, cost \$5000. Emma Shane will erect a store and dwelling, two-story, 26x46 feet, red brick, cost \$3000.

Wytheville, Va.—Store Building.—G. S. Bruce & Co. have let contract to George C. Williams for remodeling their store building. Front will be removed and replaced with iron frame and plate glass.

RAILROAD CONSTRUCTION.

Railways.

Anderson, Texas.—T. O. Buffington, of Anderson, and others have formed the Texas Northern Railroad Co. to build a line from Anderson, in Grimes county, to Stoneham, where it will connect with the Santa Fe system. The distance is about twelve miles.

Bennettsville, S. C.—The Bennettsville & Osborne Railway Co. has been chartered to construct a road eighteen miles in length between these points.

Birmingham, Ala.—Erskine Ramsay, chief engineer of the Birmingham Southern Railway Co., informs the Manufacturers' Record that nothing definite has been done relative to building the extensions of its line as yet.

Camden, W. Va.—A contract has been let for the proposed extension of the West Virginia & Pittsburg Railroad from Camden to Cherry river to Joseph Fuell, of Clarksville, W. Va. The extension will be ten miles long and terminate at the Chesapeake & Ohio system. Hon. Johnson M. Camden, at Parkersburg, W. Va., is president of the company.

Conway, S. C.—The business men of Conway have incorporated a railroad company, and it is understood have begun work on the line, which is to extend from Conway to a point on the Atlantic coast, thirteen miles, through a tract of 20,000 acres of timber land.

Corsicana, Texas.—It is announced that

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Morgan Jones, at present vice-president of the Fort Worth & Denver City Railroad, has become interested in the proposed Coral-cana & Gulf Railroad, and will take a prominent part in its construction. The road is intended to be built from Corsicana to a connection with some line terminating on tidewater.

Cumberland, Md.—Officers of the West Virginia Central & Pittsburgh Railway have been examining property in the southern portion of the city with the view of constructing freightyards at that point; C. L. Bretz is general manager.

Dardanelle, Ark.—The Dardanelle & Oklahoma Railroad Co. has been formed, with \$100,000 capital, to build a railroad to be eighteen miles long to connect Dardanelle with the Choctaw & Memphis Railroad, now under construction. John H. Pope is president, and T. E. Wilson, secretary.

Douglas, Ga.—It is understood that the present owners of the Waycross Air Line have determined to extend it from Douglas to a connection with the Georgia & Alabama or Georgia Southern & Florida. L. Johnson, at Waycross, Ga., may be addressed.

Due West, S. C.—The Due West & Donald's Railroad Co., which has been incorporated by the State legislature, proposes to build a road four miles long from Due West to a connection with the Southern Railroad at Donald's.

Dyersburg, Tenn.—The plan of building a railroad from Dyersburg to the Obion river has been revived. It will be about fifteen miles long if built, and extend westward. W. A. Fowlkes, mayor of Dyersburg, is one of the promoters.

Erwin, Tenn.—It is stated that right of way has recently been obtained for a road, to be about twelve miles long, which will extend through Union county and connect with the Southern system near Johnson City.

Fordyce, Ark.—J. N. Wheeler and others have formed what is called the Moro Bay, Warren & Fordyce Railroad Co., to build a railroad from a point on the Ouachita river through Bradley county to Fordyce. The road will be about forty-five miles long. The capital stock of the company is placed at \$45,000.

Frankfort, Ky.—The Indian Run Railway Co. has been incorporated to construct a line in Lewis and Greenup counties. Among those interested is J. W. Riggs.

Goldsboro, N. C.—A syndicate headed by W. J. Edwards, of Sanford, N. C., has made an offer to purchase the Atlantic & North Carolina Railroad, owned by the State, and to extend it from Goldsboro to Charlotte or Salisbury, N. C. The syndicate agrees to build it 100 miles beyond its present terminus if it secures control.

Hamlet, N. C.—The Marlboro, Marion & Horry Railroad Co., incorporated by the South Carolina Railroad, proposes to build a line from Hamlet to Horry and Marion, S. C., with a probable extension to Conway. The entire length of the road is estimated to be ninety miles.

Haskell, Texas.—Business men of Haskell are interested in the proposed extension of the Chicago, Rock Island & Texas Railroad from Jacksboro to Haskell. The extension would be about 100 miles long and traverse Young, Throckmorton and Haskell counties. N. T. Andrews, of Throckmorton, and H. C. Foster, of Haskell, are among those interested.

Hyattsville, Md.—A. B. Linderman, president of the Washington & Seaboard Railway Co., informs the Manufacturers' Record that the total length of the road will be eighty miles, extending from a connection with the Baltimore & Ohio at Hyattsville to Point Lookout, at the mouth of the Potomac river. The capital stock of the company is \$1,250,000. In addition to Mr. Linderman, Charles L. Merriken and Benjamin B. Griswold, of Baltimore, are reported as interested. The company's Philadelphia headquarters are at 802 Lippincott Building.

Little Rock, Ark.—In a letter to the Manufacturers' Record, Hon. John B. Jones, one of the directors of the Little Rock & Gulf Railway Co., recently referred to in these columns, writes that the company intends obtaining a land grant from the legislature, when it expects to build the line immediately.

Mobile, Ala.—It is reported that the necessary ties and bridge timber have been secured for the extension of the Mobile, Jackson & Kansas City road to Hattiesburg. H. H. Lane, at Mobile, is secretary of the company.

Mobile, Ala.—The stockholders of the Mobile & Bay Shore Railroad Co. have authorized the directors to issue \$200,000 in bonds to construct its line, which will extend to Alabama City, also to Portersville, and will be a branch of the Mobile & Ohio, twenty-

seven miles in length. E. L. Russell, at Mobile, may be addressed.

Moultrie, a.—It is understood that sixteen miles of steel rails have been purchased for the proposed extension of the Georgia Northern Railroad from Moultrie to Thomasville, Ga. John P. Smith, of Moultrie, is one of the directors of the company.

Mount Airy, N. C.—A report is current that the Atlantic Coast Line has determined to extend the Atlantic & Yadkin division, formerly the Cape Fear & Yadkin Valley Railroad, into the Virginia coal fields, connecting with the Norfolk & Western and other lines. John R. Kenly, at Wilmington, N. C., is general manager.

Norfolk, Va.—It is understood that work is to begin upon the proposed railroad between Norfolk and Sewell's Point as soon as a new street is opened in the suburbs of the city. D. Lowenburg is president of the railroad company, which also intends building a wharf and making other improvements at Sewell's Point, on Hampton Roads.

Paris, Ark.—William O'Connor has secured the contract for the extension of the Arkansas Central Railroad from Charleston to Paris, a distance of eighteen miles. This will complete the road between Fort Smith and Paris.

Pineapple, Ala.—Thomas McFarland & Co., contractors for a portion of the railroad between Pineapple and Repton, state that they will sublet about three miles of this work. Their temporary address is at Kempville, Alabama.

Quitman, Ga.—The idea of building an extension of the South Georgia Railroad from Quitman to some point on the Gulf coast is being agitated. The extension would be about seventy-five miles in length. The road is now in operation from Quitman to Heartline, a distance of twenty-eight miles. G. W. Oglesby, at Quitman, is president of the company.

Richmond, Va.—The Richmond, Petersburg & Carolina Railway Co. has asked for a franchise from the city council to construct tracks in a portion of the city to reach a terminal site. James S. Negley is vice-president of the company.

Richmond, Va.—It is understood that the Petersburg Electric Railway Co. is about to ask for a franchise from the supervisors of Chesterfield county for right of way for its line on the Petersburg turnpike.

Rowlesburg, W. Va.—William J. Nicolls, president of the Preston Coal & Coke Co., confirms the report that this company will build from Cecil to Rowlesburg, a distance of twenty miles. The road will be single track for the present, and grading is to begin as soon as the weather will permit. The company's address is 200 Betz Building, Philadelphia, Pa.

Selma, N. C.—It is announced that the Great Eastern Railway Co. will be ready to receive bids for constructing a part of its line by March 10. It will be about 150 miles long, extending from Selma to Pamlico Sound and Pantego, N. C. J. H. Macleary, at Suffolk, Va., is general manager, and J. C. Turner, at Snow Hill, N. C., is chief engineer.

Spartanburg, S. C.—The South Carolina & Georgia Railway Co., it is understood, is making arrangements for the proposed extension of the Ohio River & Charleston division from Gaffney to Spartanburg, as intended by the original company. A bill giving it this authority is pending in the legislature. Joseph H. Sands, at Charleston, is general manager.

St. Charles, Mo.—It is understood that the Wellston, Creve Coeur Lake & St. Charles Railway Co. is to begin work upon its electric line in a few days. The work includes a bridge over the Missouri river. Charles Lucas, of St. Louis, is one of the promoters.

Union, S. C.—A company has been formed to build a railroad from Union to Glenn Springs, a distance of sixteen miles. Local parties are interested in the project.

Union, S. C.—The Union & Augusta Railway Co., recently chartered by the legislature, proposes to build between Union and a connection on the Seaboard Air Line at Whitmire Station. The road will be about twenty miles long. It may eventually be built to Augusta, Ga.

Victoria, Ky.—It is reported that a coal mining company in Breckenridge county has determined to extend the railroad line it owns from Victoria to Hartford, in Ohio county, and Madisonville, in Hopkins county. The road is now in operation between Cloverport and Victoria.

Street Railways.

Atlanta, Ga.—Messrs. David E. Evans & Co., of Baltimore, have secured the contract for rebuilding about seventeen miles

of trolley line and the construction of ten miles of extensions of the Atlanta Street Railway Co.'s system. It is understood that additional machinery will be installed in the power-house and new rolling stock purchased. M. F. Amorous, at Atlanta, is president of the railway company.

Greenville, S. C.—The agitation in favor of building a railroad in Greenville has resulted in a proposition being accepted by the city council giving the Greenville Electric Light & Power Co. the privilege to do the work. The line will be about two miles in length and is to be built within the next six months.

Hot Springs, Ark.—It is reported that the Hot Springs Incline Railroad, projected several years ago, may be completed during the present year by a new company. It is three miles long, and is to be built to the summit of West Mountain.

Jacksonville, Fla.—The owners of the Main Street Railway Line have determined to extend it to Evergreen Cemetery, in the suburbs, and have asked for a franchise to build the extension from the city council. S. B. Hubbard is president of the company.

Knoxville, Tenn.—C. C. Howell, general manager of the Knoxville Traction Co., informs the Manufacturers' Record that about one and one-half miles of rails have been purchased for extensions which will be built as soon as possible.

New Orleans, La.—The New Orleans & Carrollton Railroad Co. has secured control of the Canal & Claiborne Railroad Co., and, it is understood, has decided to build a belt line to be operated by the trolley system. J. K. Newman is president of the company. Messrs. Ford, Bacon & Davis, of 149 Broadway, New York, are engineers.

Newport News, Va.—Nearly 1000 tons of steel rails have arrived at Newport News, which will be laid on the Peninsular Railway, now being constructed in the city. It is calculated that the line will be completed by June 1.

St. Louis, Mo.—The Midland Terminal Co. has been incorporated, with \$75,000 capital stock. It is understood that the company proposes to build another trolley line in the city.

Washington, D. C.—The Columbia Railway Co. has received permission to construct its proposed underground electric system on 15th street. T. J. King is secretary of the company.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Acid-phosphate Machinery.—A. D. Reynolds, Bristol, Tenn., wants prices on the necessary machinery for mixing acid phosphate; will not manufacture the acid, but will mix the phosphate, and wants the necessary appliances for doing so.

Berry Cups.—J. M. Ross, Dayton, Tenn., wants to purchase a quantity of quart berry cups to go with crates.

Boat.—H. C. Caldwell, care of Manufacturers' Record, wants one passenger and freight steamboat about seventy feet long, fourteen feet wide, four feet hold and eight miles speed.

Boiler.—Wilson Reeves, Mount Olive, N. C., is in the market for a 50-horse-power tubular boiler.

Boiler.—H. Stevens' Sons Co., Macon, Ga., is in the market for a 72-inch boiler eighteen feet long, butt joints treble riveted, of the best material, f. o. b. Macon.

Boiler and Engine.—The Cannon Manufacturing Co., J. W. Cannon, treasurer, Concord, N. C., will want a cross-compound condensing engine plant and boiler, 600 horsepower.

Boiler and Engine.—Paris Manufacturing Co., J. H. Lawrence, proprietor, Paris, Tenn., is in the market for boiler and engine 10x8.

Boiler and Engine.—Nearper & Newell, Dewey, Ga., want to buy a second-hand en-

gine and boiler of about forty or fifty horsepower.

Boiler and Engine.—L. M. Park, Lagrange, Ga., is in the market for an engine and boiler for cotton mill.

Boiler and Engine.—Ohio Flint Glass Co., Lancaster, Ohio, wants to purchase a 40-horse-power boiler and engine.

Boiler and Engine.—Greer Machinery Co., Knoxville, Tenn., wants to purchase a second-hand 10 to 20-horse-power hoisting engine and boiler.

Boilers and Engine.—See "Cotton-mill Machinery."

Boilers and Engines.—C. H. Smith, Sanford, N. C., wants prices on second-hand boilers and engines.

Boilers and Engines.—See "Electric-light Plant."

Brick Machinery.—James V. Rose, Sharon, Pa., wants to buy one second-hand dry press, capacity 50,000 daily.

Brick Machinery.—John H. Dawson, La Grange, N. C., is in the market for brick and tile machinery.

Building Materials.—Sullivan Bros., Bakerville, Tenn., want blinds, doors, etc.

Building Materials.—Edenton Cotton Mills, Edenton, N. C., is in the market for building lime, Portland and Rosedale cement necessary in building a 10,000-spindle cotton mill.

Canning Machinery.—I. R. Darwin, Circle, Tenn., wants to correspond with manufacturers of canning machinery.

Cement.—See "Building Materials."

Cotton Gin.—J. W. & N. B. Hendrick, Cherryville, N. C., want estimates on a three-stand cotton-ginning system complete.

Cotton-mill Machinery.—Phil. L. Asher, Opelousas, La., wants to correspond with cotton-mill-machinery manufacturers relative to the establishment of a cotton mill to cost about \$50,000, \$75,000 or \$100,000.

Cotton-mill Machinery.—Chattanooga Cotton Factory, Chattanooga, Tenn., wants a 200-horse-power Corliss engine, boilers, machinery, etc., for a cotton-yarn mill.

Cotton-mill Machinery.—Simon Baer & Co., 906 English-American Building, Atlanta, Ga., want to purchase a good second-hand No. 1 set of cotton-mill machinery to make cotton yarns and other goods; also a plant to knit hosiery, etc.

Cusplodes.—R. D. Talmage, manager, No. 46 Laclede Building, St. Louis, Mo., wants to correspond with manufacturers of brass, nickel and cast-iron cusplodes.

Electrical-works Supplies.—W. J. Miller, P. O. Box 34, Winchester, Tenn., wants to correspond with manufacturers of small brass and pinion gear and carbon (for telephones).

Electric-light Plant.—Merchants' Light & Power Co., C. F. Thomasson, secretary, Harrisonburg, Va., will accept bids for one incandescent dynamo, switchboard, boilers and engines, 8000 to 10,000 feet of copper wire, etc., for 2000-incandescent-lamp plant.

Electric Plant.—U. S. Engineer Office, 537 Congress street, Portland, Me., will receive sealed proposals for furnishing and setting up electric-light plant at Fort Preble, Me., until March 6. Information furnished on application. S. W. Roessler, major, engineers.

Elevator.—R. A. Graves, Sparta, Ga., wants to purchase a dumb-waiter.

Elevator (Grain) Machinery.—The Midlothian Grain Co., W. W. Major, manager, Midlothian, Texas, is in the market for an oat-cleaner and wheat-cleaner combined, elevator screw, conveyors, etc., for 75,000-bushel grain elevator.

Engine.—Midlothian Grain Co., W. W. Major, manager, Midlothian, Texas, is in the market for a 10 or 12-horse-power engine or gasoline engine.

Engine.—Central Cotton Oil Co., Ernest Lamar, manager, Selma, Ala., wants to purchase 300-horse-power Corliss engine.

Engines.—W. J. Miller, P. O. Box 34, Winchester, Tenn., wants to communicate with manufacturers of gasoline engines, two and four horse-power.

Excelsior Machinery.—Randall, Ruhl & Co., Baltimore, Md., want description and prices on machinery for manufacturing excelsior.

Flour-mill Machinery.—B. M. Boyd, Whitney, Texas, wants estimates on a 50-barrel flour mill complete.

Foundries, etc.—Martin Armstrong, Velasco, Texas, desires to have manufactured a patent wire-staple hammer, and wants to correspond with foundry and sheet steel manufacturing companies.

Foundry Equipment.—Barataria Canning Co., Biloxi, Miss., wants a crane fixture for an 8x8-inch crane.

Foundry Equipment.—Tyler Tube & Pipe

Co., W. P. Tyler, president, Washington, Pa., wants to purchase large shears.

Furniture Machinery.—The Basic City Furniture Co., Basic City, Va., wants to purchase machinery for the manufacture of bedroom furniture. Address the company, care of J. F. Templeton.

Gasoline Engines.—See "Engine."

Gasoline Engines.—See "Engines."

Gas Plant.—The American Ether Co., Richmond, Va., wants to correspond with parties who erect plants for the manufacture of pure oil gas from crude petroleum, etc.

Galvanizing Plant.—S. Howes Co., Silver Creek, N. Y., wants names of manufacturers of galvanizing plants.

Ginnery.—A. S. Reid, secretary, Eatonton Electric Co., Eatonton, Ga., wants to correspond with manufacturers of the round-bale gin.

Ice Machinery.—N. B. M., care of Manufacturers' Record, wants a second-hand 12 to 25-ton ice plant.

Ironwork.—Edenton Cotton Mills, Edenton, N. C., is in the market for wrought and cast-iron plates, plinths, pintles, dog irons, etc.

Iron-working Machinery.—Paul Gerdes, Silverton, Texas, wants a machine, new or second-hand, for bending angle iron 1x1 to 1½x1½ inch.

Knitting-mill Machinery.—The Suffolk Knitting Mills, Suffolk, Va., will want complete equipment for knitting mill costing probably \$40,000; at present further particulars cannot be given.

Knitting Mill.—See "Cotton-mill Machinery."

Laundry Machinery.—George B. Morton, president City Steam Laundry, Memphis, Tenn., wants to buy a mangle.

Lumber.—A New York company controlling a large lumber business desires to make more favorable arrangements on yellow pine, white pine, chestnut, cedar and oak, such as car sills, bridge timber, piling, cross-ties, etc., for steam and electric railroad use. Address "Lumber," care of Manufacturers' Record.

Mining Equipment.—Victor Coal Co., Jack Carr, president, Charleston, W. Va., wants prices on mining equipment.

Oil-mill Machinery.—Central Cotton Oil Co., Ernest Lamar, manager, Selma, Ala., wants prices on a 120-ton cottonseed-oil mill.

Paper Boxes.—F. A. Yates, Concord, N. C., wants prices on 1000 paper boxes 1 9-16x 1 9-16x 1 9-16 inches deep.

Paper-box Supplies.—Excelsior Knitting Mills, J. H. Gault, treasurer and manager, Union, S. C., wants prices on straw board, all colors of glazed paper, paste, glue and all material required for making paper boxes.

Planing-mill Machinery.—C. H. Smith, Sanford, N. C., wants prices on second-hand planing mills.

Plumbing, etc.—Treasury Department, Office Supervising Architect, Washington, D. C., will receive sealed proposals until March 23 for the interior finish, vault doors, linings, plumbing, gas piping, approaches, certain changes, etc., for the United States building at Kansas City in accordance with drawings and specifications, copies of which may be had at this office or office of superintendent at Kansas City. James Knox Taylor, supervising architect.

Polishing and Finishing Machinery.—C. M. Killian, Cordele, Ga., wants addresses of manufacturers of machine for finishing and polishing imperfect or mismatched flooring and ceiling after it has been laid.

Pumps.—Tyler Tube & Pipe Co., W. P. Tyler, president, Washington, Pa., wants to purchase steam pumps.

Railway Equipment.—For information regarding new rails, etc., address Colonel Seymour, chief engineer of construction, care of L. & N. Co., Louisville, Ky.

Railway Equipment.—O. B. Colton, Lake View, N. J., is in the market for a light standard-gauge mogul and a 36-inch-gauge saddle-tank engine.

Railway Equipment.—Superior Coal & Lumber Co., C. Scholz, manager, Mammoth, W. Va., is in the market for several carloads of relaying rails, thirty and fifty-six pounds; also wants spikes, bolts and other track materials.

Railway Equipment.—Knoxville Traction Co., C. C. Howell, vice-president and general manager, Knoxville, Tenn., may purchase two cars.

Railway Equipment.—The New Soddy Coal Co., Soddy, Tenn., is in the market for two cars of rails, either new or second-hand, weighing from sixteen to twenty-five pounds to the yard, with plates and bolts.

Roofing.—Central Cotton Oil Co., Ernest Lamar, manager, Selma, Ala., wants to purchase gravel, tin, iron or composition roof to cover 775 squares.

Roofing and Siding.—Sullivan Bros., Bakerville, Tenn., want fireproof roofing and siding for building 40x60 feet.

Roofing, Siding, etc.—H. M. Sipe, Mint Hill, Mo., wants addresses of parties who deal in materials for covering buildings.

Rubber.—J. A. Newsom, Pelican, Texas, wants address of manufacturers and dealers in rubber.

Safe.—Mayberry & Watson Co., Birmingham, Ala., want to purchase a large safe.

Saw-mill Machinery.—C. H. Smith, Sanford, N. C., wants prices on second-hand saw mills.

Sewing-machine Materials.—H. M. Sipe, Mint Hill, Mo., wants addresses of parties who handle sewing-machine material.

Sewing Machines.—Paris Manufacturing Co., J. H. Lawrence, proprietor, Paris, Tenn. (jeans, pants, shirts, overalls, etc.), is in the market for eight machines.

Tank.—Lancaster Cotton Mills, Leroy Springs, president, Lancaster, S. C., wants to buy a second-hand steel tank to hold 10,000 gallons.

Tank.—Central Cotton Oil Co., Ernest Lamar, manager, Selma, Ala., wants to purchase a tank for storing 250,000 gallons of oil.

Telephone and Telegraph Materials.—Rible Bros., Wytheville, Va., want addresses of purchasers of insulator pins and brackets for telephone and telegraph lines, and hardwood shippers.

Telephone Equipment.—Louis Stern, No. 71 Anderson Place, Buffalo, N. Y., wants to correspond with contractors for constructing complete telephone plants.

Telephone Equipment.—J. W. & N. B. Hendrick, Cherryville, N. C., want prices on telephones and fixtures for a complete system.

Telephone Supplies.—F. W. Hagan, New Hope, Ky., wants to purchase from five to twenty telephones.

Telephone-works Supplies.—W. J. Miller, P. O. Box 34, Winchester, Tenn., wants to correspond with manufacturers of small brass and pinion gear and carbon (for telephones).

Textile Machinery.—James A. Turner, M. D., High Point, N. C., wants information regarding machinery for manufacture of bedspreads, towels and sheetings.

Well Boring.—The McColl Manufacturing Co., McColl, S. C., wants bids on boring an artesian well.

Undertakers' Equipment.—T. B. Gibson, McColl, S. C., wants to buy second-hand hearse.

Wood Articles.—T. S. Gregory, Cheraw, S. C., wants to correspond with parties handling telegraph poles, kindling wood, waiking sticks, etc.

Woodworking Machinery.—Chilhowie Lumber Co., Chilhowie, Va., wants to purchase a three-inch second-hand cabinet tenoner, also a six-inch four-side molder.

Woodworking Machinery.—F. W. Hagan, New Hope, Ky., may want one 12-inch planer, one boring machine, one band saw and several small saws.

Woodworking Machinery.—Florence Wagon Works, A. D. Bellamy, general manager, Florence, Ala., wants a second-hand outfit for manufacturing wagon hubs.

Woodworking Machinery.—T. J. Gallahorn, Ulah, N. C., wants to purchase chair machinery.

Woodworking Machinery.—See "Polishing and Finishing Machinery."

GENERAL INDUSTRIAL NEWS.

The bronze works of the Bronson Company at Beacon Falls, Conn., have been destroyed by fire.

It is understood that the Fowler Radiator Works, at Johnstown, Pa., are to be considerably enlarged.

The additions to the plant of the Buhl Steam Co., of Sharon, Pa., include several open-hearth furnaces.

The owners of the Penn Electric Works have decided to remove their plant from Wilkinsburg to Irwin, Pa.

The Braeburn Steel Co., of Braeburn, Pa., is installing additional furnaces and hammers, also a 250-ton press.

The Wright & Colton Wire Cloth Co., of Worcester, Mass., is still considering the question of erecting a factory.

A patent fruit jar is to be made by the Meyer Glass Co., recently formed at Detroit by Ernst E. Meyer and others.

The shops of the West Pennsylvania Foundry & Machine Co., at Avonmore, Pa., recently burned, will be rebuilt.

O. M. Washburn, Sing Sing, N. Y., is interested in the North American Smelting Co., recently formed in New York city.

The Peoria Steel and Iron Works has prepared plans for a tinplate plant in connection with its works at Averyville, Ill.

The foundry to be built by the Lorain Foundry Co., at Lorain, Ohio, will be 100 feet square. Contracts are being let.

John L. Green and others have formed the Crown Carpet Lining Co. at Providence, R. I., to manufacture linings for carpets.

Another New Jersey light and power company has been formed at Newark with \$25,000 capital by D. C. Smith and others.

John N. Schott, of Providence, R. I., may be addressed relative to the John N. Schott Co., which will pack meats in that city.

It is reported that an Eastern syndicate may purchase the works of the Turner Engineering Co., located at Bucyrus, Ohio.

The Scott Paper Co.'s new building in Philadelphia will be four stories high and 60x164 feet in size. Contracts have been let.

Contracts, it is announced, have been let for an addition to the plant of the Kemp-smith Machine Tool Co. at Milwaukee, Wis.

A dispatch from Port Huron, Mich., is to the effect that the Jenks Shipbuilding Co. of that city may construct an addition to its plant.

Joseph Reid may be addressed relative to the Reid Gas Engine Co., which will have its plant at Oil City, Pa. It is capitalized at \$100,000.

James Ingils is one of the directors of the Ingils Photographic Paper Co., which will

manufacture photographic materials at Chicago, Ill.

Work is to be commenced at the plant of the Monessen Steel Co., at Monessen, Pa., in a few weeks. It will turn out hoops and cotton ties.

Jacob Fox may be addressed relative to the Randolph Company, formed to manufacture surveying and other instruments at Cincinnati, O.

A. A. Lawrence is interested in the United States Aristotype Co., formed to manufacture material for photographic purposes at Bloomfield, N. J.

A Pittsburg dispatch is to the effect that the Union Car Co., of New York, is making arrangements to change the location of its works to Pittsburg.

It is announced that the Corning Steel Co. has determined to add two mills, also other equipment, to its works at Hammond, Ind., and has let contracts.

The Eastman Cloth Cutting Machine Co. will manufacture this apparatus at Buffalo, N. Y. George P. Eastman, of Toronto, Ont., is one of the directors.

The Mahony Manufacturing Co., of Troy, N. Y., will operate a foundry with \$75,000 capital. Lewis S. Helm, of Watervliet, N. Y., may be addressed.

The Shanks Chalk Co., of New York, will manufacture preparations from this material. Leonard J. Wetmore, of Englewood, N. J., may be addressed.

The Cleveland Crane & Car Co. will manufacture cranes and cars at Cleveland, O., with \$50,000 capital stock. George A. Armstrong may be addressed.

There is a possibility that the works of the Hayes Machine Co. will be removed from Oshkosh, Wis., to another point where a larger site can be secured.

The Manhattan Brass Co., of New York, will rebuild at once the portion of its plant destroyed by fire. This portion includes its lamp manufacturing plant.

A recent New York incorporation is the Fulton Enamelled Brick Co., which will manufacture this material. G. W. Laire, of Cliffside, N. J., may be addressed.

The Blumenthal Company, of Shelton, Conn., it is reported, has decided to make an addition to its plush mills which will double the capacity of the plant.

A new bicycle company has been formed at San Francisco, Cal., under the title of the Jersey Wheel Co., with \$20,000 capital stock, by W. P. Fuller and others.

Charles H. Baker, of 238 Hanover street, Trenton, N. J., is a director in the Linoleum Manufacturing Co., formed to manufacture oiled goods with \$50,000 capital stock.

David W. King, of 1133 Broadway, New York, is architect for a five-story factory to be erected in Brooklyn for Webster & Anderson, of 171 Broadway, New York.

The Naugatuck Brass Co., recently incorporated in New Jersey, will manufacture specialties with this metal. James O. May, at Naugatuck, Conn., may be addressed.

The Florence Mining Co. will have its temporary offices at 243 Washington street, Jersey City, N. J. Its capital is \$3,000,000 and it is incorporated under the laws of this State.

It is understood that the Southwark Foundry & Machine Co., of Philadelphia, will install five pairs of blowing engines in the Edgar Thomson Works of the Carnegie Steel Co.

John McShane and others have formed the Omaha Cold Storage Co., which, it is understood, will construct a plant at Omaha, Neb. The company is capitalized at \$100,000.

The Wheel & Cycle Bar Co., of Wallingford, Conn., has increased its capital stock from \$10,000 to \$40,000. It will be used to enlarge the manufacturing facilities of the company.

David Jameson and others, of New Castle, Pa., have purchased the foundry of the Derwent Foundry Co., of Ellwood City, Pa., and intend manufacturing bathtubs and enameled ware.

F. Kilgenberg, of Oakland, Cal., may be addressed relative to the Buckingham Cigarette Roller Co., formed to manufacture machines for making cigarettes, with \$100,000 capital stock.

The Armstrong & Bolton Co. has been formed to manufacture apparatus for heating and lighting with \$50,000 capital stock. James R. Bolton, of New Haven, Conn., is one of the directors.

The promoters of the bakery to be constructed in Chicago have formed the McMahon Cracker & Biscuit Co., with \$100,000 capital stock. John McMahon is at the head of the company.

The Godcharles Nail Works, it is stated, has absorbed the nail works at Louisburg, Pa., which will be added to the plant at Milton, Pa. The latter, recently damaged by fire, will be rebuilt.

It is understood that contracts have been let to rebuild the portion of the mills of Woodcock Bros. in Germantown, Philadelphia, Pa., recently destroyed by fire. M. D. Wartner is contractor.

H. G. Wassen, of Pittsburg, is interested in the proposed plant for making seamless tubing for bicycles. It is understood that the plant will cost \$200,000 and will be erected at Beaver Falls, Pa.

The headquarters of the Lowenthal Rubber Co., which has been organized to manufacture rubber articles, will be at 144 Provost street, Jersey City, N. J. Rudolph A. Lowenthal may be addressed.

Joseph A. Bureleigh, of Laconia, N. H., is a director in the American Linen Fiber Co., recently incorporated in New Jersey, with \$2,000,000 capital stock. The company intends to bleach and dye fabrics.

R. P. Hull may be addressed relative to the Hull Umbrella Co., which will have its offices for the present in the building of the New Jersey Corporation Trust Co. at Camden. Its capital stock is \$200,000.

The new county building to be constructed at Detroit, Mich., it is calculated will cost nearly \$800,000. Contracts are being awarded for the various sections of the work. A. M. Scott is the architect.

James H. Baker, of Pittsburg, Pa., is considering the idea of establishing a factory for manufacturing anvils in or near that city. Mr. Baker is interested in the Baker Chain Works at Allegheny, Pa.

The Rahn & Mayer Co., of Cincinnati, Ohio, will let contracts at once for a brick and stone building to be 150x50 feet in size. The company will need machinery immediately. John Rahn, Jr., is president.

R. B. Sulter, of Cleveland, O., has organized a company to build a plant for manufacturing yeast in that city, which, it is expected, will give employment to 500 men and represent an investment of \$1,000,000.

Messrs. Deltz, Schumacher & Boye, of Cincinnati, O., inform the Manufacturers' Record that contracts are being let for an addition to their works, which will be 100x60 feet, and will require about 150 horse-power.

A dispatch from Sioux City, Iowa, is to the effect that the W. M. Thompson Co. has secured the property of the Sioux City Engine Works, and will erect an addition to it, making a specialty of engines and drilling machines.

Daniel Scotten & Co., of Detroit, Mich., have determined to erect another tobacco

plant in the cost \$80,000 about May mentions.

A recent Boston Sh which will be in the C at Jersey City.

E. H. R. Standard I writes the possible the tion of its reached as

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Work has b turing plant t nola Steel Co with its worl stated that it

plant in that city, which it is calculated will cost \$60,000. The factory will be completed about May 1 and will be 180x62 feet in dimensions.

A recent New Jersey corporation is the Boston Sheet Metal Manufacturing Co., which will manufacture corrugated iron and steel. Its headquarters for the present will be in the Corporation Trust Co.'s building at Jersey City.

E. H. Rider, one of the directors of the Standard Heater Co., of Bellaire, Ohio, writes the Manufacturers' Record that it is possible the company may change the location of its plant, but no decision has been reached as yet.

Messrs. Kane & Roach, of Syracuse, N. Y., have placed the necessary machinery in their new buildings. They have installed a 40-horse-power boiler, also an electric-light plant. The firm makes a specialty of vehicle machinery.

President William F. Wilson, of the Wilson Crate Co., of Mount Vernon, N. Y., states that the company will erect one factory in New Jersey and possibly others outside of that State. No location has been decided on as yet.

The Tyler Tube & Pipe Co., of Washington, Pa., has contracted for its new rolling-mill plant. It will install a 500-horse-power engine, and its building will be constructed of iron. W. P. Tyler, president, is authority for this statement.

John C. Roberts, of St. Louis, is one of the directors in the Antibule Chemical Co., recently incorporated in New Jersey. Its object is to manufacture various chemicals. Its temporary offices are at 250 Washington street, Jersey City.

It is announced that the Carnegie Steel Co., of Pittsburgh, has determined to construct an office building which will be 120 feet square and cost fully \$500,000. It will be built in addition to the present offices of the company at Pittsburgh.

Another company to sell automatic weighing and adding machines has been formed in New York with \$500,000 capital stock. It is called the National Automatic Machine Co., and includes E. J. Patterson, of Plainfield, N. J., in its directory.

Edward J. Patterson, of Plainfield, N. J., and J. Condit Smith, of New York, are directors in the Moore Brick & Clay Co., which will manufacture building material with \$75,000 capital stock. The company's plant will be located at Whippany, N. J.

Messrs. E. H. Dyer & Co., of Cleveland, Ohio, have secured the contract for the beet-sugar factory at Grand Junction, Col., recently referred to in the Manufacturers' Record. It is calculated that the plant will have an annual output of 40,000 tons of sugar.

The New England Foundry & Machine Co., recently incorporated in New Jersey, includes Charles F. Hoyt, of 32 Broadway, N. Y., and Charles E. Seldon, of Middletown, N. Y. The company will manufacture special machinery with \$100,000 capital stock.

Another auto-vehicle company has been formed to do business in Philadelphia. It is entitled the Pennsylvania Electric Vehicle Co., and is to be capitalized at \$6,000,000. William J. Jackson, of Philadelphia, and Josiah J. Dubois, of Camden, N. J., are directors.

The combination of American sewer-pipe makers, it is stated, includes fifty-one plants, which will be combined with a total capital stock of \$25,000,000. It is to be called the American Sewer Pipe Co., and will have offices either in Pittsburgh or Cleveland, Ohio.

The Cramp Ship & Engine Building Co., of Philadelphia, has been authorized to issue \$1,500,000 in 5 per cent. bonds, and it is understood a part of this issue will be utilized for constructing the proposed dry-dock already referred to in the Manufacturers' Record.

Messrs. Hatch & Cox, bankers, of New York city, have secured a tract of land near Denver, Col., on which it is understood a beet-sugar factory will be erected which will use the output of 1500 acres. A company will be formed, with \$200,000 capital stock, to operate the plant.

The Pittsburgh Plate Glass Co., of Pittsburgh, Pa., has decided to more than double the capacity of the Marsh Plate Glass Works which it controls. The company's plant at Ford City, Pa., now under construction, will have an annual output of 4,500,000 feet of thin plate glass.

Work has begun on the cement-manufacturing plant to be constructed by the Illinois Steel Co., of Chicago, in connection with its works in South Chicago. It is stated that it will be one of the largest, if

not the largest, cement factory in the world for producing this article from slag.

Henry G. Nichols, of Boston, has purchased the plants of the Burlington Woolen Co., the Colchester Company and the Winooski Worsted Co. at Burlington, Vt., for a syndicate, which will combine the properties and operate them under one management, with \$5,000,000 capital stock.

The Metallic Basket Co., of Rochester, N. Y., informs the Manufacturers' Record that it has leased buildings for its plant and has secured most of its machinery. It is now placing orders for sheet metal and spelter for its stock. C. C. Prescott is president, and C. S. Lunt, treasurer, of the company.

Charles Burnham, of Milwaukee, trustee, has secured control of the plant of the Wisconsin Beet Sugar Co., near Menominee Falls. The plant has a capacity of 100 tons a day, and is already equipped for business. The Manufacturers' Record is informed that Mr. Burnham wishes to sell the entire plant.

The Ohio Flint Glass Co., at Lancaster, Ohio, will rebuild its works, recently burned, at once. The buildings will be five in number and will be constructed of brick, iron and stone. Contracts are about to be let and the company will be in the market for machinery in about thirty days; forty horse-power will be required.

It is announced that the New Jersey Steel & Iron Co., of Trenton, N. J., has secured the contract for constructing the towers and other work for the East river bridge, to connect New York and Brooklyn. The contract price is \$1,220,000. The towers alone will be over 300 feet high, and the contract involves over 12,000 tons of metal.

The Commercial Cable Co., recently incorporated under the laws of New York city, it is understood, intends to construct a cable between Florida and Cuba in connection with a telegraph and telephone system in the West Indies. The capital stock is placed at \$500,000. Among those interested are J. Herbert Potts, one of the police magistrates of New York city.

The Pittsburgh Horseshoe Co., recently referred to in the Manufacturers' Record, has purchased a site at Glassport, Pa., near Pittsburgh, and will erect its plant. The company will utilize gas for fuel, and will employ 150 hands, turning out 200,000 kegs of horseshoes yearly. Wallace H. Rowe is one of the directors of the company, which has its main office in the Ferguson Building, Pittsburgh.

The Gleason Manufacturing Co. may have its offices in the New Jersey Corporation Trust Co.'s building at Camden, N. J. It is formed to manufacture woodwork with \$100,000 capital. Edward D. Gleason may be addressed. In the same building the United States Fireproof Co.'s offices will be temporarily located. This company employs a process for fireproofing wood. John A. Barry is one of the directors.

TRADE NOTES.

Prosperous Well Drillers.—Messrs. Perry Andrews & Bro., of Atlanta, Ga., to whom mention was made in our last week's issue as architects, are well drillers and not architects. The firm continues to file orders from all parts of the South and gives satisfaction to its clients.

Contract Awarded by New York Mastic Works.—The Compagnie Générale des Asphaltes de France, Ltd., 32 Broadway, New York, has awarded the contract for the erection of a new pier at the foot of Seventh street, Borough of Queens, city of New York, to James D. Leary, 22 State street, New York city, at about \$10,000.

A Graceful Correction.—The Marine View in its issue of February 23 makes a graceful correction of a misstatement in a previous issue regarding that money-producing Alaskan steamer "Willie Irving," which, though a stern-wheeler only eight feet long and twenty feet beam, made \$23,000 on one round trip. She made ten trips during four months of last season, and is the boat that shot the Five-Finger rapids, two miles in length, in two and one-half minutes. Joseph Supple, of Portland, built the hull, and the Marine Iron Works, of Chicago, designed and built the entire combination of driving machinery and accessories, including the Roberts water-tube boiler, of which it is the authorized builder.

Telephones in the South.—The immigration movement Southward during the past few years has taken with it the desire for all modern conveniences, this being especially true of electrical apparatus and telephone systems. Among the leading telephone manufacturing companies making

efforts to secure the Southern trade is the Eureka Electric Co., of Chicago, Ill. This company manufactures and installs plants complete, and its members, being all thoroughly versed in electrical apparatus, it is enabled to give satisfaction to its patrons. The Eureka telephones include long-distance instruments, amplifying transmitters, double-pole receivers, high-grade generators, etc., and other modern and proven apparatus.

Superiority of Slate as a Roofing.—There are a number of important claims for superiority made in the interest of slate as a roofing. One claim is the fact that, being a ready-made product of nature, slate requires but a small amount of manipulation to fit it for the purpose to which it is adopted; another good quality of slate is that it embodies in a leading degree the conditions of strength and elasticity, it is non-absorbent of moisture, and possesses the requisites for resisting the most trying atmospheric extremes. In the way of beauty and utility the merits of slate are readily acknowledged. Further points of interest anent slate as a roofing may be obtained by requesting Messrs. John Galt & Sons, of 253 Broadway, New York city, for one of their booklets on that product. This firm claims to be the oldest house in this business, having been established in 1860, and its senior member (John Galt) being the first one to name a delivery price on roofing slate to any station in the United States. The firm's business covers a wide area of country, extending not only over all parts of this continent, but also to Europe, Australia and the West Indies. Shipments of Galt & Sons for last year amounted to 162,700 squares, about 90,000 of which were used in this country, the balance being shipped to the foreign lands mentioned above.

TRADE LITERATURE.

Rainbow Packing.—A neat leaflet in reference to the meritable qualities of the "Rainbow" packing is issued by the Peerless Rubber Manufacturing Co., of 16 Warren street, New York city.

An Attractive Pamphlet.—The Preston Coal & Coke Co., Preston county, West Virginia, has issued an attractive brochure entitled "In the Land of the Hills," and written by Wm. Jasper Nicolls, of Philadelphia. The publication is devoted to a description of coal resources of West Virginia, particularly that portion in which the Preston Company operates.

How and When to Spray.—How to spray, when to spray, and what pumps to use, is fully explained in the booklet issued by the Goulds Manufacturing Co., of Seneca Falls, N. Y. To secure abundant crops it is necessary in many instances to spray, and to do this with the greatest success requires meritable devices and tools. The spray pumps and apparatus manufactured by the Goulds Manufacturing Co. will be found to fill all requirements of the users or prospective buyers of spraying pumps.

Treatise on the Care of Saws and Tools.—A treatise on the care of saws and tools has been issued by the firm of Baldwin, Tuthill & Bolton, of Grand Rapids, Mich. This booklet illustrates and describes 150 or more machines and tools for the care of saws or knives, many of which are new appliances now catalogued for the first time, and the line is sufficiently comprehensive to enable one to meet any requirements that have been brought forward. Apart from this material, the booklet gives a newly-prepared and exhaustive treatise on the practical side of saw and knife fitting that will be found of much interest to expert fitters and of positive service to amateurs and beginners. Catalogues furnished on request from those interested.

FLORIDA.

Last Tour of the Season via Pennsylvania Railroad.

The last of the present series of popular Pennsylvania Railroad personally-conducted tours to Jacksonville will leave New York and Philadelphia and Baltimore by special train of Pullman palace cars on Tuesday, March 7.

Round-trip tickets, valid to return on regular trains until May 31, 1899, and including railway transportation in each direction, and Pullman accommodations (one berth) and meals on special trains going, will be sold at rate of \$48.

For tickets, itineraries and full information apply to ticket agents or address Geo. W. Boyd, assistant general passenger agent, Broad Street Station, Philadelphia.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record, Baltimore, Md., March 2.

The tone of the local phosphate market is quiet, in sympathy with other fertilizer ingredients. Manufacturers are not purchasing to any extent. Brokers report sales of Tennessee rock at higher prices. At all points of production there is considerable activity, both in domestic and foreign shipments. In South Carolina the inclement weather has retarded operations to a great extent, but there is a considerable movement among river miners during fine weather. The demand from domestic sources is light, but from foreign buyers some good orders have recently been filed. Prices are nominally steady, without change. From the Florida ports shipments are reported active, and for the current month will make more than an average showing. At Fernandina repairs to the phosphate elevator are being pushed with vigor, and facilities for shipping inside of thirty days will be vastly improved. At various points in the phosphate belt of Florida miners are very active in the work of development, and several new deposits are about to be worked. Florida railroads are very busy with phosphate traffic, and are handling an immense supply of rock. At Port Tampa and Punta Gorda the shipping business is larger than in January. In the Tennessee phosphate field there has been an unusual amount of business, despite weather conditions. Buyers pay the advance, and are purchasing freely for March and April delivery. The shipments of phosphate rock from the Mt. Pleasant field during the month of January amounted to nearly 27,000 tons. The demand for both domestic and foreign delivery is now very decided, with prices stiff at previous figures. The charters reported in New York last week were as follows: A British steamer, 2400 tons, from Fernandina to Stettin with phosphate rock at 18/6, April 15; a British steamer, 4500 tons, from Carrizal to Philadelphia with nitrate at 27/6, June; the British schooner Wellman Hall, 136 tons, from Pensacola to Martinique with fertilizer at \$3.50, and schooner Annie C. Grace, 491 tons, from Charleston, S. C., to Barren Island with phosphate rock at \$2.10 net.

Fertilizer Ingredients.

The market for ammoniates is generally quiet, but there is a steady demand from the usual sources, and trade is satisfactory for this period of the season. Messrs. Thomas H. White & Co., in their circular for February, review the market as follows: "There is little to note of importance in the ammoniate market the past month. The demand from Southern markets in the cotton section was light. The unusual severity of the weather has destroyed the chances of a large trade expected from the sugar-producing territory. Spring trade in the Middle States has been delayed by the same cause. The market closes quiet." Tankage and dried blood are in moderate demand, and prices well maintained. Sulphate of ammonia is dull, with no material change in prices. Nitrate of soda is a shade firmer, recent sales of spot goods showing an improvement.

The following table represents the prices current at this date:

Sulphate of ammonia (gas)	\$2 72½ @	2 75
Nitrate of soda	1 05 @	1 70
Blood	1 80 @	1 82½
Hoof meal	1 05 @	1 67½
Azotine (beef)	1 85 @	—
Azotine (pork)	1 85 @	—
Tankage (concentrated)	1 60 @	1 62½
Tankage (9 and 20)	1 70 @	and 10
Tankage (7 and 30)	1 70 @	and 17 50
Fish (dry)	20 00 @	—
Fish (acid)	12 00 @	—

Phosphate and Fertilizer Notes.

The phosphate business in Polk county, Florida, is reported very active at the moment. It is reported that a new phosphate plant is to be established at an early date six miles south of Bartow, Fla.

McIver & McKay, of Ocala, Fla., have received a contract to erect a large phosphate plant at Hernando for Mr. C. Chisholm, of Charleston, S. C. The same firm have made extensive repairs on a phosphate plant at Hartshorn, Fla., which will be put in operation by Ford & Hillyer.

The mixing department of the fertilizer mill of the Globe Phosphate Co. at Columbia, S. C., was destroyed by fire last week. There were 10,000 tons of fertilizers of all grades in the building, valued at \$125,000. This stock is said to be fully insured. The insurance on building and machinery was \$28,000.

The steamship Hedwig cleared from Charleston, S. C., on the 20th ult. for Liverpool with 990 tons of phosphate rock among her assorted cargo. The schooner Emma C. Knowles cleared for Boston on the 22d ult. with 950 tons of phosphate rock. The total clearances of phosphate rock from Charleston to domestic ports from September 1, 1898, to February 24, 1899, amounted to 55,023 tons, against 46,096 tons for the corresponding period last year.

The first annual meeting of the Central Phosphate Co., of Beaufort, S. C., was held at the company's works at Dale Creek, S. C., on the 1st ult. Messrs. Alphonso Cajot, M. Cheroune, E. Sautter, J. Kroner and J. B. West were re-elected directors for the ensuing year. The accounts for the year were approved, and it was stated that operations during the year had been very much restricted by the stoppage of shipments owing to the Spanish-American war, but that the prospects for the present year were decidedly encouraging.

It is stated that options have been secured on six Baltimore fertilizer factories in the interest of the combination being formed to control the manufacture of fertilizers in sections north of Baltimore. The factories named are: Lazaretto Guano Co., Zell Guano Co., Detrick Fertilizer Co., Maryland Fertilizer Co., Slingshuff & Co. and the Chemical Company of Canton. Mr. John Gibbons, a former Baltimorean, and now connected with the Liebig Manufacturing Co., of Cartaret, N. J., is slated for the presidency of the new combination.

The activity previously noted in phosphate shipments at Fernandina continues with but little interruption, the improvements at the elevator, however, slightly retarding operations. Two large steamers were loading phosphate rock on the 23d ult., and two others awaiting cargoes. The steamer Hilleraig cleared on the 21st ult. for Portland, England, with a full cargo of phosphate rock. It is expected that repairs to elevator will be finished about the 15th of March, when the capacity for loading direct into the vessels and storing in the bins will be about doubled.

The last number of the University of Tennessee Record contains the address of President Chas. W. Dabney on the State University in the constitutions and laws, a valuable contribution to the early history of the University of Tennessee and a review of the institution's work in 1898. The publication is now entering upon its second year with a broad prospect before it.

Governor M. J. Foster is expected to assist in securing State aid for the industrial exposition at New Orleans.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

New Corporations.

The American Banking & Building Co. has been formed by J. R. Van Mater, of Hagerstown, Md., and others.

A dispatch from Sherman, Texas, is to the effect that three national banks are now being formed in that city.

J. H. Thomas, of Bells, Tenn., has been elected president; George W. Bailey, vice-president, and E. L. Fox, cashier of the bank recently organized at Humboldt, Tenn., with \$50,000 capital.

The State Banking & Trust Co., recently organized at Hattiesburg, Miss., has been authorized to do a general banking business with \$100,000 capital. G. T. Heard and A. H. Cooper are directors of the company.

Recent bills passed by the North Carolina legislature include measures to incorporate the Raleigh Banking & Trust Co., the Commercial & Savings Bank of Goldsboro and the Bank of Cumberland at Fayetteville.

The Border National Bank has been formed at Eagle Pass, Texas, with W. A. Barnett, president, and J. P. Simpson, cashier. The Simpson National and First National banks of the same place have consolidated.

It is announced that a company has been formed into which will be merged the National Fire Insurance Co., also the National Howard Fire Insurance Co. of Baltimore. It will have \$250,000 capital stock and a surplus of the same amount. It is understood that H. Crawford Black will be president of the company.

The Fidelity Fire Insurance Co. has been formed at Baltimore by J. Ramsay Barry, J. W. Middendorf, R. C. Hoffman and others with \$500,000 capital stock. It is understood that Mr. Barry, who was formerly connected with the Merchants & Manufacturers' Fire Lloyds, will be president of the company, and that it will have a surplus of \$250,000 in addition to its capital.

New Securities.

G. N. Dilworth has purchased \$50,000 worth of 5 per cent. bonds of Gonzales county, Texas, at 101.

Houston, Texas, will probably sell \$100,000 worth of paving bonds recently authorized by the city council.

The town of Greensboro, Ala., will probably issue \$10,000 in improvement bonds. The mayor may be addressed.

The bonds to be issued by Fulton, Mo., amount to \$10,000 and bear 5 per cent. interest. The mayor may be addressed.

The city council of Ocean Springs, Miss., has approved the issue of \$10,000 improvement bonds. Address the mayor.

The city of Sheffield, Ala., will probably sell \$125,000 in bonds for improvements. The mayor will give further details.

The proposed issue of \$50,000 in water-works bonds to be sold by Opelika, Ala., has been authorized by the State legislature.

The town of Edenton, N. C., has received authority from the legislature to sell its proposed bond issue for school purposes.

Moore county, North Carolina, has been authorized to issue bonds by the legislature. Address the commissioners at Carthage.

The Young Men's Christian Association

of Cumberland, Md., is considering a plan of refunding its bonded debt at the rate of 4 per cent. A. H. Amick is acting for the association.

Elizabeth City, N. C., will probably issue bonds for improvements in the near future. The mayor will give further information.

The Safety Savings and Loan Association of Kansas City, Mo., has decided to increase its capital stock from \$700,000 to \$1,000,000.

The Riverside Iron Works Co., of Wheeling, W. Va., has determined to increase its capital stock from \$2,000,000 to \$3,000,000.

There is a possibility that the city of St. Augustine, Fla., may issue \$20,000 in bonds for an electric-light plant. Address the mayor.

The mayor at Durham, N. C., may be addressed relative to the proposed issue of bonds for school purposes authorized by the legislature.

The Old Line Real Estate Co. of Baltimore has decided to increase its capital stock from \$100,000 to \$1,000,000. John Hubner is president.

There is a possibility that the Richmond Trust & Deposit Co., of Richmond, Va., will increase its capital stock from \$700,000 to \$1,000,000.

L. C. Hudgins will receive bids until April 20 for \$40,000 in 6 per cent. bonds of Pickens county, Alabama. He may be addressed at Carrollton.

An issue of \$150,000 in 4 per cent. bonds may be made by Galveston county, Texas. The county commissioners may be addressed at Galveston.

The State legislature has authorized Clarendon county, South Carolina, to issue bonds. The commissioners may be addressed at Manning, S. C.

Greenville county, South Carolina, has been authorized to issue bonds by the legislature. The board of commissioners may be addressed at Greenville.

Clay county, North Carolina, has been authorized to issue bonds by the State legislature. The board of commissioners may be addressed at Hayesville.

The school district of Ravenswood, W. Va., may sell bonds to the amount of \$9500. The school board may be addressed at the town of Ravenswood.

An issue of \$500,000 in 6 per cent. railroad bonds is offered for sale in the advertising columns at 75. The bonds are to run thirty years, and are in denominations of \$1000 each.

The issue of bridge bonds to be made by Bexar county, Texas, has been approved by the city authorities. It amounts to \$41,500. The board of county commissioners may be addressed at San Antonio.

It is expected that Morgan county, Alabama, will sell its bond issue amounting to \$265,000 within the next few months. The board of commissioners may be addressed for information at Somerville, Alabama.

A bill is being prepared to be introduced in the North Carolina legislature for an issue of \$200,000 in bonds in payment of State indebtedness contracted by the penitentiary management. The State treasurer may be addressed at Raleigh.

Messrs. E. D. Shepard & Co., of New York, have purchased the issue of \$250,000 in 5 per cent. bonds of Charlotte, N. C., paying 105. An additional amount of \$50,000, it is expected, will be offered for sale in the near future. The mayor will give further information.

A bill has been introduced into the Arkansas legislature authorizing the issue of \$1,000,000 in bonds, of which \$300,000 will be used for refunding purposes and \$700,000 for a new statehouse at Little Rock. The State treasurer may be addressed at Little Rock.

TABLE OF CONTENTS.

EDITORIAL:	Page.
Work Appreciated.....	85
Sustaining the Railroads.....	85
Exploiting the South.....	85
Louisville on the Qui Vive.....	85
For Technical Training.....	85
The Southern Farm Magazine.....	90
Building at Greensboro.....	90
Coal in Kentucky.....	90
Would Settle South.....	90
The South Should Deal Liberally With Capital.....	90
Pine Bluff Enterprise.....	95
Immense Drainage Project.....	97
Cotton-Carrying Rates.....	98
Scarcity of Iron.....	98
Eastern Iron Markets.....	98
Retired With Honors.....	98
For National Expansion.....	98
COMMERCE:	
American Goods Abroad.....	90
The Port Arthur Canal.....	90
Galveston's Export Facilities.....	90
Improving Gulf Cities.....	90
A New Johnston Liner.....	90
Another Steamship Contract.....	90
Jottings at the Ports.....	90
RAILROAD NEWS:	
To Buy the Atlantic & North Carolina.....	90
New Roads in South Carolina.....	90
Important West Virginia Line.....	90
New Seaport for the Southern.....	90
Important Short Line.....	90
Good Record for the Southern.....	90
Secured the Florida Central.....	91
Railroad Notes.....	91
TEXTILES:	
They Want Cotton Mills.....	91
Activity at Cedartown, Ga.....	91
New Mill of 7000 Spindles.....	91
To Have 25,000 Spindles, 750 Looms.....	91
To Have 12,000 Spindles.....	91
The Cotton Movement.....	91
\$30,000 for Improvements.....	91
Columbia's Cotton Warehouses.....	91
An 8000-Spindle, 350-Loom Addition.....	91
Textile Notes.....	91
Oil in Kentucky.....	91
MECHANICAL:	
Compressed-Air Pumping (Illus.).....	92
Watchman's Clock (Illus.).....	92
Combined Punch and Shearing Machine (Illus.).....	92
Mr. John E. Searles' Trip.....	92
COTTONSEED OIL:	
The Market for Cottonseed Products.....	93
Cottonseed-Oil Notes.....	93
Savannah's Trade Prospects.....	93
LUMBER:	
Lumber Market Reviews:	
Baltimore.....	94
Charleston.....	94
Savannah.....	94
Mobile.....	94
Lumber Notes.....	94
Trade Notes.....	94, 101
CONSTRUCTION DEPARTMENT:	
New Enterprises.....	95
Building Notes.....	95
Railroad Construction.....	95
Machinery Wanted.....	95
General Industrial News.....	100
Trade Literature.....	101
PHOSPHATES:	
Phosphate Markets.....	101
Phosphate and Fertilizer Notes.....	102
FINANCIAL NEWS:	
New Corporations.....	102
New Securities.....	102
Dividends and Interest.....	102
Financial Notes.....	102

Dividends and Interest.

The Mutual Loan & Building Co., of New Orleans, has declared a semi-annual dividend of 4 per cent.

Messrs. Alexander Brown & Sons, of Baltimore, will pay the interest due March 1 on bonds of the Lake Roland Elevated Company.

Messrs. Hambleton & Co., of Baltimore, will pay the interest due March 1 on bonds of the Consolidated Railway Co. of Baltimore; also of the Baltimore Traction Co.

Financial Notes.

A recent sale of bonds of Charleston, S. C., was made at 106, although the bonds bear but 4 per cent. interest. This is the highest figure ever received for Charleston bonds bearing this rate of interest.